

PROJECT REPORT

TO: **PLANNING COMMISSION**

AGENDA DATE: September 13, 2023

FROM: **PLANNING & DEVELOPMENT SERVICES**

AGENDA TIME 9:00 AM/ No.3

PROJECT TYPE: SMP Gold Corp (Oro Cruz) RP #21-0001 SUPERVISOR DISTRICT #5

LOCATION: On BLM Lands, East of Olgilby Rd, northwest of Yuma, Az APN: 050-110-006 et al

T15S, R20E, Sec. 1, 2, 12, 13 and T15S, R21E Sec. 6, 7, 18 PROJECT SIZE: +/- 21.3 acre

GENERAL PLAN (existing) Recreation\Open Space GENERAL PLAN (proposed) N/A

ZONE (existing) _____ ZONE (proposed) N/A

GENERAL PLAN FINDINGS CONSISTENT INCONSISTENT MAY BE/FINDINGS

PLANNING COMMISSION DECISION:

HEARING DATE: 08/23/2023

APPROVED DENIED OTHER

PLANNING DIRECTORS DECISION:

HEARING DATE: _____

APPROVED DENIED OTHER

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 11/17/2022

INITIAL STUDY: 21-0029

NEGATIVE DECLARATION MITIGATED NEG. DECLARATION EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
AG	<input type="checkbox"/>	NONE	<input checked="" type="checkbox"/>	ATTACHED
APCD	<input type="checkbox"/>	NONE	<input checked="" type="checkbox"/>	ATTACHED
E.H.S.	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
FIRE / OES	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
SHERIFF	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED
OTHER	<input checked="" type="checkbox"/>	NONE	<input type="checkbox"/>	ATTACHED

MCAS Yuma, Center for Biological Diversity,
CA Dept. of Fish & Wild Life, US EPA

REQUESTED ACTION:

IT IS RECOMMENDED THAT YOU CONDUCT A PUBLIC HEARING AND HEAR ALL THE OPPONENTS AND PROPONENTS OF THE PROPOSED PROJECT. STAFF WOULD THEN RECOMMEND THAT YOU TAKE THE FOLLOWING ACTION:

1. ADOPT THE MITIGATED NEGATIVE DECLARATION BY FINDING THAT THE PROPOSED PROJECT WOULD NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AS RECOMMENDED AT THE ENVIRONMENTAL EVALUATION COMMITTEE (EEC) HEARING ON NOVEMBER 17, 2022; AND,
2. MAKE THE DE MINIMUS FINDINGS AS RECOMMENDED AT THE NOVEMBER 17, 2022 EEC HEARING THAT THE PROJECT WILL NOT INDIVIDUALLY OR CUMULATIVELY HAVE AN ADVERSE EFFECT ON FISH AND WILDLIFE RESOURCES, AS DEFINED IN SECTION 711.2 OF THE FISH AND GAME CODES; AND
3. APPROVE THE ATTACHED RESOLUTION(S), SUPPORTING FINDINGS, AND RECLAMATION PLAN (RP) #21-0001.

Planning & Development Services

801 MAIN ST., EL CENTRO, CA 92243 442-265-1736

(Jim Minnick, Director)

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STAFF REPORT
Planning Commission
September 13, 2023
Reclamation Plan (RP) #21-0001

Subject: SMP Gold Corp. Mineral Exploration Drilling

Applicant: SMP Gold Corp. (aka Oro Cruz)
912 N. Division Street
Carson City, NV 89703

Project Location:

The proposed project is located on mined Bureau of Land Management (BLM) administered lands further identified as Assessor's Parcel Number(s) (APNs) 050-110-006, 050-110-007, 050-110-008, 050-110-009, 050-110-023, 050-110-024, 050-280-001, 050-280-012, and 050-280-013 within T15S, R20E, Sections 1, 2, and 13 and T15S, R21E, Sections 6, 7, and 18 of the San Bernardino Base and Meridian (S.B.B.M.), situated approximately 2.3 miles east of the Gold Rock Ranch RV Resort and approximately 15 miles northwest of the unincorporated townsite of Winterhaven, in an unincorporated area of the County of Imperial, State of California.

The proposed project site is located within the historic Cargo Muchacho-Tumco Mining District, area historically disturbed by mining activities with surrounding land uses that include prospecting and recreation. The subject area is bounded by Ogilby Road (State Route 34) on the East and by Interstate 8 (I-8) on the South and surrounded by vacant desert parcels administered by the Bureau of Land Management on the North, South, East, and West.

Project Summary:

SMP Gold Corp. (aka Oro Cruz) proposes to conduct mineral exploration drilling activities that would result in minor surface reworking of previously mined and disturbed areas. SMP Gold Corp. would conduct up to 20.54 acres of surface mineral exploration within a 626.3-acre area to locate and delineate precious metal (gold) deposits.

Mineral exploration activities would consist of utilizing and improving the existing access road network: constructing approximately (2) two miles of road improvements for existing roads, constructing approximately 6.2 miles of new, temporary 12-foot-wide exploration drilling access roads. The project would also entail (8) eight helicopter landing pads, sixty-five (65) drill pads to support exploration in seven (7) drilling areas, construction of 1.8 miles of a new 15-foot-wide permanent access road, and a 2.8-acre staging area for access to the Oro Cruz Mine Portal on BLM-administered lands.

SMP's exploration activities would not significantly increase the number of vehicles on local public roadways. Specifically, the number of onsite workers/contractors at any given operating day during the course of the Project would be minimal (estimated up to 13 onsite employees). Hours of operation would be contiguous. Project personnel would include one operator and foreman per drill rig and one water truck driver for two 12-hour shifts per day. A geologist would also be on-site each day. Project operations would be temporary within each

Drill Area, occurring over up to two weeks at up to two drill sites at a time before moving to a new drill site.

Project personnel would access the Project Area in four-wheel drive vehicles. Up to two track-mounted drill rigs would be used for drilling in the Project Area at once. A CAT D8 bulldozer, or equivalent, and a track hoe and/or hoe ram would be used to construct the roads and drill sites where needed. Roads and drill sites would be reclaimed using a bulldozer and/or CAT excavator or equivalent. At any time, one track-mounted drill rig, two 1,000-gallon water trucks, one 2,000-gallon portable water tank for water delivery to the Project, up to five support vehicles, one pipe truck, one 125-kilowatt (kW) generator associated with the drill rig and two 125-kW generators associated with the staging area, two portable air compressors, and one diesel fuel tank would be present within the Project Area.

The helicopter used for access to the eight proposed drill pads not accessible via road or vehicle and to and from the staging area would be flown during daylight hours and would originate from the Yuma Airport. The helicopter would operate up to 10 trips per day during drilling operations and would provide drilling crew member access and delivery of water, fuel, and drilling supplies. The helicopter would be in use at the Project for up to 64 days as drilling operations would be conducted at each drill site for four to eight days over the life of the Project.

Planning and prevention of fires would also be managed throughout the life of the Project through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training.

Solid waste generated by the Project would be collected in appropriate containers and removed from the Project Area. Project-related refuse would be hauled to an authorized landfill for disposal in accordance with applicable laws and regulations. No refuse would be disposed of on-site in the Project Area.

Surface and groundwater within the Project Area would not be used as a source for water for the drilling. Rather, water for drilling and dust suppression would be provided by the drilling company via a mobile water truck. Specifically, the water would be procured from Gold Rock Ranch and/or another local water purveyor. It is anticipated that two 1,000-gallon water trucks would be required onsite each day. Additionally, a 2,000-gallon portable water storage tank would be kept onsite for drilling and dust suppression. A mobile water truck would be utilized onsite for dust suppression, and applied water would either naturally evaporate or infiltrate into the ground.

Proposed mineral exploration activities would be limited to 12 to 24 months. Once the project area is no longer required by SMP, the majority of the proposed project area would be reclaimed and revegetated, after which point it would be monitored and maintained annually in late spring or early summer for (3) three years to ensure revegetation efforts have been established and reclaimed areas are stable.

Land Use Analysis:

Per Imperial County’s General Plan, the land use designation for this project is “Recreation/Open Space” and zoned as S-2 (Open Space/Preservation) on BLM-administered lands per Zoning Map #70 of the Imperial County Title 9 Land Use Ordinance. Per County’s Land Use Ordinance (Title 9), Division 5, Section 90519.01, Subsection (g), mineral extraction is an allowed use in the S-2 (Open Space/Preservation) permitting mineral exploration activities for gold. The proposed project is consistent with the County’s General Plan and County’s Land Use Ordinance (Title 9).

Surrounding Land Uses, Zoning and General Plan Designations:

DIRECTION	CURRENT LAND	ZONING	GENERAL PLAN
Project Site	Vacant/Open Desert Space	S-2 (Open Space/Preservation) on BLM Lands	Recreation/Open Space
North	Vacant/Open Desert Space	S-2 (Open Space/Preservation) on BLM Lands	Recreation/Open Space
South	Vacant/Open Desert Space	S-2 (Open Space/Preservation) on BLM Lands	Recreation/Open Space
East	Vacant/Open Desert Space	S-2 (Open Space/Preservation) on BLM Lands	Recreation/Open Space
West	Vacant/Open Desert Space	S-2 (Open Space/Preservation) on BLM Lands	Recreation/Open Space

Environmental Determination:

On November 17, 2022, the Environmental Evaluation Committee (EEC) determined that Reclamation Plan (RP) #21-0001 for mineral exploration drilling activities, with proposed mitigation measures, would not have a significant effect on the environment and recommended a Mitigated Negative Declaration (MND) to be prepared. The EEC Committee consists of a seven (7) member panel, integrated by the Director of Environmental Health Services, Imperial County Fire Chief, Agricultural Commissioner, Air Pollution Control Officer, Director of the Department of Public Works, Imperial County Sheriff, and the Director of Planning and Development Services. The EEC also made the De Minimus Finding that the project will not individually or cumulatively have an adverse effect on Fish and Wildlife Resources, as defined in Section 711.2 of the Fish and Game Codes.

On December 13, 2022, the public notice for the Mitigated Negative Declaration was filed with the Imperial County Clerk-Recorder, posted and circulated for a 35-day comment period from 12/13/2022 to 01/20/2023. Comments received were made part of this package.

Staff Recommendation:

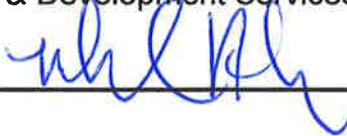
It is recommended that you conduct a public hearing and hear all the opponents and proponents of the proposed project. Staff would then recommend that you take the following action:

1. Adopt the Mitigated Negative Declaration by finding that the proposed project would not have a significant effect on the environment as recommended at the Environmental Evaluation Committee (EEC) hearing on November 17, 2022; and,
2. Make the De Minimis findings as recommended at the November 17, 2022 EEC hearing that the project will not individually or cumulatively have an adverse effect on Fish and Wildlife Resources, as defined in Section 711.2 of the Fish and Game Codes; and
3. Approve the attached Resolution(s), Supporting Findings, and Reclamation Plan (RP) #21-0001.

PREPARED BY: Gerardo A. Quero, Planner I
Planning & Development Services



REVIEWED BY: Michael Abraham, AICP, Assistant Director
Planning & Development Services



APPROVED BY: Jim Minnick, Director
Planning & Development Services



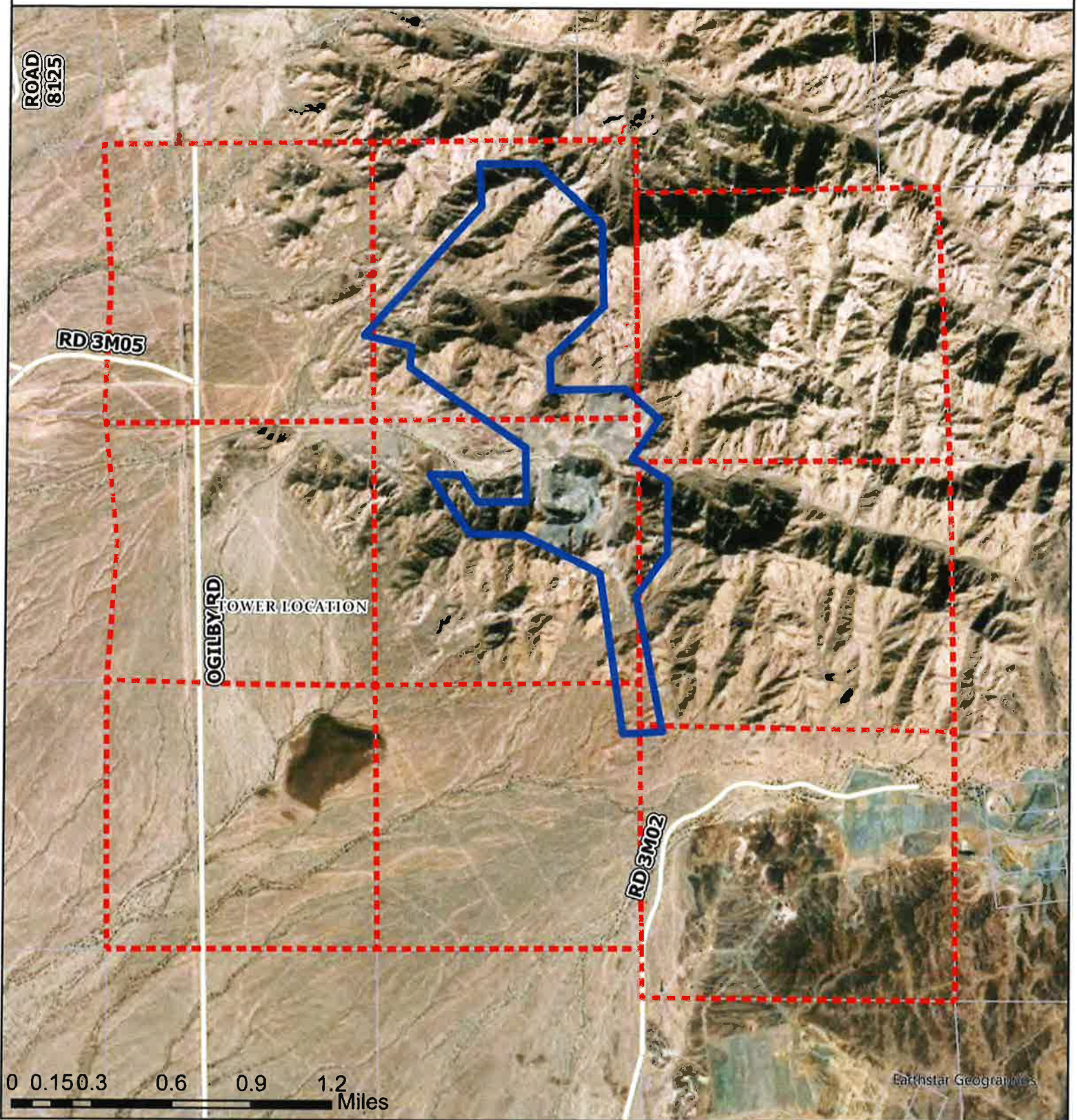
ATTACHMENTS:

- A. Vicinity Map
- B. Site Plan/Plot Plan
- C. CEQA Resolution
- D. Environmental Assessment (EA)/Mitigated Negative Declaration (MND)
- E. Reclamation Plan Resolution
- F. Reclamation Plan #21-0001
- G. Application

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ATTACHMENT "A" – VICINITY MAP

PROJECT LOCATION MAP



**SMP GOLD CORP.
(AKA ORO CRUZ)
RP #21-0001
APN 050-110-006, 007, 008, 009, 023,
024 AND 050-280-001, 012, 013**

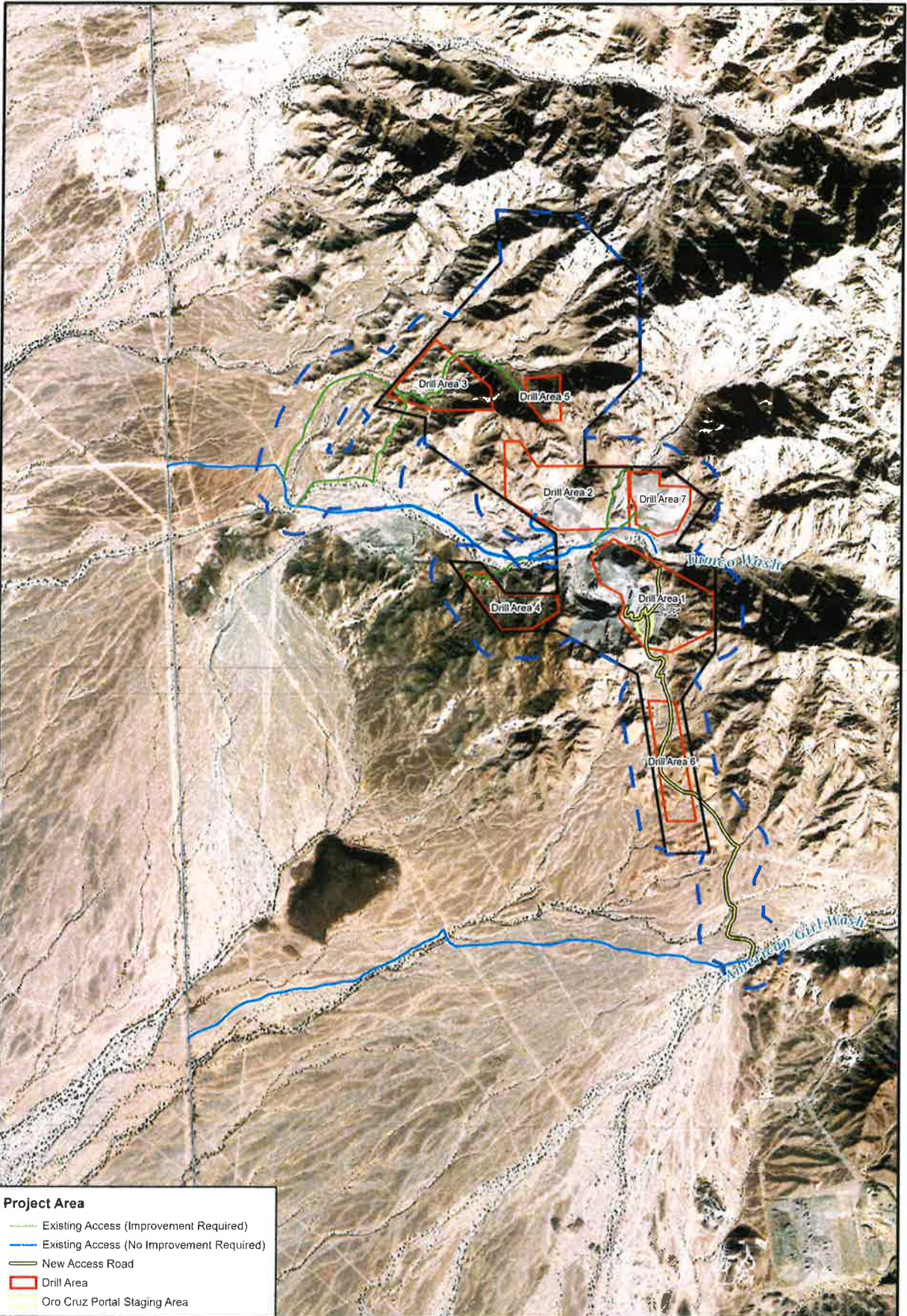
 HIGHWAYS

 PROJECT LOCATION

 ORO CRUZ
EXPLORATION PLAN



ATTACHMENT "B" – SITE PLAN/PLOT PLAN



**ATTACHMENT "C" – CEQA
RESOLUTIONS**

RESOLUTION NO. _____

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, ADOPTING THE “MITIGATED NEGATIVE DECLARATION” FOR RECLAMATION PLAN #21-0001.

WHEREAS, on November 3, 2022, a Public Notice was mailed to the surrounding property owners advising them of the Environmental Evaluation Committee hearing scheduled for November 17, 2022;

WHEREAS, a Mitigated Negative Declaration and CEQA findings were prepared in accordance with the requirements of the California Environmental Quality Act, State Guidelines, and the County’s “Rules and Regulations to Implement CEQA, as Amended”;

WHEREAS, the Environmental Evaluation Committee recommended to the Planning Commission of the County of Imperial to adopt the Mitigated Negative Declaration for Reclamation Plan #21-0001;

WHEREAS, the Mitigated Negative Declaration was circulated for 35 days from December 13, 2022 to January 20, 2023;

WHEREAS, the Planning Commission of the County of Imperial has been designated with the responsibility of adoptions and certifications;

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

The Planning Commission has reviewed the attached Mitigated Negative Declaration (MND) prior to approval of Reclamation Plan #21-0001. The Planning Commission finds and determines that the Mitigated Negative Declaration is adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance, and the California Environmental Quality Act (CEQA) which analyzes the project’s environmental effects, based upon the following findings and determinations:

1. That the recital set forth herein are true, correct, and valid; and,
2. That the Planning Commission has reviewed the attached Mitigated Negative Declaration (MND) for Reclamation Plan #21-0001 and considered the information contained in the Mitigated Negative Declaration together with all comments received during the public review period and prior to approving the Reclamation Plan; and,
3. That the Mitigated Negative Declaration reflects the Planning Commission independent judgment and analysis.

NOW, THEREFORE, the County of Imperial Planning Commission **DOES HEREBY ADOPT** the Mitigated Negative Declaration for Reclamation Plan #21-0001.

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certified that the preceding Resolution was taken by the Planning Commission at a meeting conducted on September 13, 2023 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Jim Minnick, Interim Director of Planning & Development Services
Secretary to the Imperial County Planning Commission

**ATTACHMENT "D" – ENVIRONMENTAL
ASSESSMENT (EA)/MITIGATED
NEGATIVE DECLARATION (MND)**

Environmental Assessment/Mitigated Negative Declaration (EA/MND) Oro Cruz Exploration Project

Bureau of Land Management, California Desert District, El Centro Field Office
DOI-BLM-CA-D070-2022-0012-EA

Imperial County Planning Department
IS #21-0029
August 2023



Lead Agencies:

United States Department of the Interior, Bureau of Land Management
California Desert District Office, El Centro Field Office
1661 S 4th Street
El Centro, California 92243

Imperial County Planning & Development Services
801 Main Street
EL Centro, California 92243

Applicant:

SMP Gold Corp
912 N. Division Street
Carson City, Nevada 89703



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Appendix J List of Preparers

1.0 Introduction

SMP Gold Corp. (SMP) proposes underground and surface mineral exploration activities for the Oro Cruz Exploration Project (Project) at the existing Oro Cruz Pit Area within lands administered and managed by the Bureau of Land Management (BLM), California Desert District Office, El Centro Field Office (ECFO), in Imperial County, California. The Project is located in the Cargo Muchacho Mountains of the Imperial Valley in southeastern California on BLM-administered lands within Township 15 South, Range 20 East, Sections 1, 2, 12, and 13, and Township 15 South, Range 21 East, Sections 6, 7, and 18 (**Figure 1-1**). The Project is approximately 15 miles northwest of Winterhaven, California, 50 miles east of El Centro, California, and 23 miles northwest of Yuma, Arizona, by road travel. Area within and surrounding the Project has been previously disturbed by mining activities, and current surrounding land uses include prospecting and recreation. The Project Area is located within the historic Cargo Muchacho-Tumco Mining District, with over 200 years of historical mining activity (Clark 1970). The Project would occur within the Picacho Area of Critical Environmental Concern (ACEC), as designated under the Desert Renewable Energy Conservation Plan (DRECP).

SMP submitted a Plan of Operations (**Appendix A**) for the proposed exploration activities in accordance with BLM regulations published in the Code of Federal Regulations (CFR) in 43 CFR 3809 and 43 CFR 3715. Pursuant to 43 CFR 3809.11 and 3809.401, the Project would result in minor surface reworking of previously mined and disturbed areas, and measures would be taken to prevent unnecessary or undue degradation during Project operations. The Project would comply with the performance standards in 43 CFR 3809.420 and other Federal and state laws related to environmental protection and protection of cultural resources. The Project is “reasonably incident” to mining as defined in 43 CFR 3715.0-5, and the Project would attain the stated level of protection and reclamation required by specific laws in the California Desert Conservation Area. The Project would allow SMP to conduct up to 20.54 acres of surface mineral exploration within a 626.3-acre area (Project Area) (SMP 2021). This document analyzes effects resulting from surface disturbance only. Underground exploration is not discussed further in this document as it is not subject to permitting under the 43 CFR 3809 Surface Management regulations and is therefore not under the decision-making realm of the BLM as it pertains to the proposed Project.

1.1 *BLM Purpose and Need for Action*

On lands open to location under the General Mining Law of 1872, as amended (Mining Law), the BLM administers the surface of public land and federal subsurface mineral estate under the Mining Law and the Federal Land Policy and Management Act of 1876 (FLPMA). FLPMA also governs the BLM’s administration of public land not open to location under the Mining Law. The purpose of the mineral exploration portion of the Proposed Action is to provide SMP the opportunity to explore, locate, and delineate precious metal (gold) deposits on its mining claims on public lands, as provided under the Mining Law. The need for action is established by the BLM’s responsibility under Section 302 of FLPMA and the BLM Surface Management Regulations at 43 CFR 3809 to respond to a plan of operations to allow an operator to prospect, explore, and assess locatable mineral resources on public lands, and to take any action to prevent unnecessary or undue degradation of the public lands.

The BLM is required to respond to SMP’s Plan to conduct mining operations for locatable minerals in accordance with the Surface Management Regulations (43 CFR 3809) and Use and Occupancy Under the Mining Law (43 CFR 3715) and other applicable laws such as FLPMA and the National Environmental Policy Act of 1969 (NEPA).

1.2 *Imperial County Planning Department Objectives*

The Imperial County Planning Department (Imperial County) has applied a land use designation of “Recreation/Open Space” to the Project Area per the current Imperial County General Plan (Imperial County 2015). Imperial County must comply with the California Environmental Quality Act of 1970 (CEQA) when it undertakes an activity defined by CEQA as a “project” that must receive some level of discretionary approval (i.e., Imperial County has the authority to deny the requested lease, permit, or other approval) which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment. While the BLM is the lead agency with authority over the proposed exploratory drilling activities (described in the Plan), pursuant to requirements under the California Surface Mining and Reclamation Act of 1975 (SMARA) for projects that would entail over one acre of surface disturbance, a Reclamation Plan is also required to be approved by Imperial County, which addresses the reclamation activities that would be undertaken following completion of the proposed exploratory drilling activities. As the authorized SMARA lead agency, Imperial County has sole discretion over approval of the Reclamation Plan for the proposed Project. A Reclamation Plan (Sespe 2022) has been submitted to Imperial County (Reclamation Plan #21-0001) in compliance with SMARA and would be implemented should the Project be approved by Imperial County. Reclamation of the proposed 20.54 acres of surface disturbance associated with mineral exploration (described further in **Section 2.1.2** and in the Reclamation Plan on file with Imperial County) in accordance with SMARA, is the “project” as defined under CEQA, and evaluated within this document.

1.3 *Decision to Be Made*

The decision the BLM would make, based on the analysis conducted under NEPA, includes the following options: 1) approve the Plan with no modifications; 2) approve the Plan with additional mitigation measures that are needed to prevent unnecessary or undue degradation of public lands and to reduce or eliminate the effects of the Proposed Action or Action Alternatives; or 3) deny the approval of the Plan as currently written and not authorize the Project if it is found that the Proposed Action does not comply with the 43 CFR 3809 regulations and FLPMA mandate to prevent unnecessary or undue degradation.

The decision Imperial County would make, based on the analysis conducted under CEQA, would be determined by whether the results of the IS show there is no substantial evidence that the Project may have a significant effect on the environment, or if the IS identifies potentially significant effects but a proposed MND shows that the Project would avoid the effects or mitigate the effects to a level where no significant effects would occur. Pursuant to the County of Imperial Guidelines for Implementing CEQA, Imperial County is the designated CEQA Lead Agency in accordance with Section 15050 of the referenced guidelines; therefore, Imperial County has the principal responsibility for approving the necessary environmental clearances and analysis for any project within Imperial County, as well as for certifying the appropriate CEQA document, for which the Project’s Reclamation Plan would be approved under SMARA. Imperial County’s discretionary authority relates to approval of the Reclamation Plan.

1.4 *Land Use Plan Conformance*

The BLM is responsible for the preparation of this EA, which was prepared in conformance with NEPA, applicable laws and regulations passed subsequently, including President’s Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), United States (US) Department of the Interior requirements, and the policy guidance provided in the BLM NEPA Handbook H-1790-1 (BLM 2008). Under 43 CFR 3809.415, the operator of the plan of operations must prevent unnecessary or undue degradation to the public lands. The Proposed Action is in conformance with FLPMA in ensuring that resource protection is not compromised in accordance with the mandated principles of FLPMA. The Proposed Action is also in conformance with the California Code of Regulations, Title 14, Chapter 3,

Section 15000, et. seq., for Imperial County implementation of CEQA and the Imperial County General Plan, which was completed in 1993 to provide a balance of land use policies and programs with the goal of maintaining the “quality of life” in the region (Imperial County 2015). The Project would not result in changes to the Imperial County General Plan or existing zoning designations (the Project Area is zoned as “BLM”).

The Proposed Action is in conformance with the California Desert Conservation Area (CDCA) Plan and the DRECP Land Use Plan Amendment (LUPA), which amended the CDCA Plan. Relevant LUPA and ACEC goals and objectives under the DRECP for biological, air, cultural, mineral, paleontological, soil and water, and visual resource management resources are outlined in the Conservation Management Action (CMA) tables provided in **Appendix B**. The Proposed Action detailed above specifically conforms to the following Land Use Plan objectives from the CDCA and DRECP:

- Encourage the development of mineral resources in a manner which satisfies national and local needs and provides for economically and environmentally sound exploration, extraction and reclamation practices.
- Support responsible mining and energy development operations necessary for California’s infrastructure, commerce and economic well-being.

The Proposed Action would include the implementation of best management practices (BMPs), applicant-committed environmental protection measures (Project Design Features [PDFs], **Appendix F**), and avoidance and minimization measures. Additional CMAs and mitigation measures would also be implemented in conformance with the DRECP LUPA (BLM 2016) and per BLM requirements (**Appendix F**). CMA LUPA-MIN-6 for new or expanded mineral operations would be implemented for consideration of all resources and compliance (**Appendix F**).

1.5 Relationship to Statutes, Regulations, Other NEPA Documents

This EA/MND has been prepared to comply with NEPA, one of many authorities that contain procedural requirements that pertain to treatment of elements of the environment when the BLM is considering a federal action, and with CEQA. The Proposed Action and the No Action Alternative are consistent with federal, state, and local laws, regulations, and plans and programs. The Proposed Action and the No Action Alternative are also consistent with state plans and policies for the management of mineral and water resources, conservation of threatened and endangered species (Endangered Species Act of 1972 [ESA]) and special status species, and cultural resources protection (National Historic Preservation Act of 1966 [NHPA]), including the DRECP LUPA (BLM 2016) and the Imperial County General Plan (Imperial County 2015). The Proposed Action is in compliance with Sections 401 and 404 of the Clean Water Act (CWA) and the Navigable Waters Protection Rule (NWPR), California Water Code (Chapter 2 Section 13050), and the California Fish and Game Code (Section 1600) for Project permitting in relation to determining jurisdictional waters and aquatic resources. The Project would also comply with SMARA, including applicable performance standards related to post-exploration site reclamation. Any decision would assure that the action is in the public interest, that there are no hazards to public health and safety, and that the action minimizes and mitigates environmental damage. All activities discussed in the sections below would be in compliance with appropriate federal, state, and local laws in cooperation with all appropriate federal, state, and local agencies.

1.6 Organization and How to Use This EA/MND

The purpose of this Environmental Assessment (EA)/Mitigated Negative Declaration (MND) is to identify issues, analyze alternatives, and disclose any potential environmental impacts associated with the Project as well as to complete an Initial Study (IS) for the Project and disclose impact analyses and any required

mitigation measures in instances where potential impacts were found to be significant. NEPA mandates that the BLM evaluate or analyze the environmental impacts of a proposed project (Proposed Action) and reasonable alternatives (including the No Action Alternative) and determine if the Proposed Action would create unnecessary or undue degradation of the public lands, as defined by the 43 CFR 3809 Regulations, and also consider and evaluate appropriate mitigation measures. Similarly, CEQA mandates that Imperial County evaluate and analyze the environmental impacts of the proposed Project, which, in the case of CEQA, is the approval of the Reclamation Plan and the undertaking of the activities described therein. Furthermore, CEQA also mandates that any environmental impacts found to be potentially significant be avoided or mitigated.

This EA/MND is intended to provide the BLM, as the lead federal agency under NEPA (42 United States Code [USC] 4321 et seq.), and Imperial County, as the state Lead Agency under CEQA (Public Resources Code 21000 et seq.), and other cooperating agencies with the information required to exercise their discretionary responsibilities with respect to the Project. An EA is prepared in accordance with NEPA to analyze impacts of the Project and to issue a Finding of No Significant Impact, if applicable. An IS/MND are prepared in accordance with CEQA to analyze and disclose impacts of a project when project revisions and/or mitigation measures are made or agreed to by the Proponent that ensure potential significant effects on the environment would be avoided or mitigated to a point where clearly no significant effect on the environment would occur and to where there is no substantial evidence that a project may have a significant effect on the environment. This EA/MND is a joint document to fulfill both NEPA and CEQA requirements for analysis of the Project. **Table 1-1** includes a list of terminology that is comparable in NEPA and CEQA and throughout this document.

Table 1-1 Equivalent NEPA and CEQA Terminology

NEPA Terminology	CEQA Terminology
Environmental Assessment <ul style="list-style-type: none"> Proposed Action 	Mitigated Negative Declaration <ul style="list-style-type: none"> Project Proposed Project
Purpose and Need	Project Objectives
Affected Environment	Environmental Setting
Environmental Impacts	IS Checklist and Impact Analysis

This document is organized as follows:

- **Chapter 1** provides the Lead Agency information, purpose and need/Project objectives, the decision to be made, conformance to existing land use plans and relevant statutes and regulations, and document organization.
- **Chapter 2** provides a description of the proposed Project, including the location and PDFs/applicant-committed environmental protection measures. Chapter 2 also describes the No Action Alternative as required under 40 CFR 1502.14(c) to provide an appropriate basis to compare all other alternatives and discussion of alternatives considered but eliminated from detailed analysis.
- **Chapter 3** provides the IS for the Project and impact analysis under CEQA, as well as mitigation measures required for the affected resources, as appropriate. This chapter also provides a description of the affected environment, analysis of the environmental impacts under NEPA for the Proposed Action and No Action Alternative, and a discussion of cumulative effects from the Project for the affected resources, as appropriate.

- **Chapter 4** provides an overview of the consultation, coordination, and public participation efforts made for the Project and review of this EA/MND.

A complete list of acronyms and abbreviations used in this document is provided in **Appendix C**, and a list of references cited in this document is provided in **Appendix D**.

2.0 Proposed Action and Alternatives

This chapter describes the proposed Project, referred to herein as the Proposed Action, the No Action Alternative, and other alternatives considered but eliminated from analysis in this EA. In accordance with 40 CFR 1501.5, agencies must include brief discussions of the alternatives to the Proposed Action under the requirements of Section 102(2)(E) of NEPA, which requires agencies to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources. Alternatives should be explored and objectively evaluated in the EA.

The BLM NEPA Handbook (H-1790-1) indicates that the range of alternatives should explore alternative means of meeting the Purpose and Need for the action (BLM 2008). The Purpose and Need statement helps to define the range of alternatives. Within the range of alternatives evaluated, the EA must at least consider the Proposed Action and No Action Alternative and provide a description of alternatives eliminated from further analysis (if any exist), with the rationale for elimination. The agency must analyze those alternatives that are necessary to permit a reasoned choice.

2.1 Proposed Action

Exploration activities would consist of utilizing the existing road network for Project access; constructing approximately two miles of road improvements for existing roads, constructing approximately 6.2 miles of new, temporary 12-foot-wide exploration drilling access roads (which would be dependent on accessibility of drill site locations chosen for exploration activities), eight helicopter landing pads, and 65 drill pads to support exploration in seven drill areas; and constructing 1.8 miles of a new 15-foot-wide access road and a staging area for access to the Project Area and the underground existing Oro Cruz Mine Portal for underground exploration within Drill Area 1, all on BLM-administered lands (**Figure 2-1**). The proposed disturbance would create up to 20.54 acres of surface disturbance under the Proposed Action. **Table 2-1** outlines the total acreage of proposed surface disturbance by type of disturbance and the total disturbance for the Project.

The exact location of proposed surface disturbance may change based on exploration results as exploration operations progress; therefore, the full extent of the disturbance locations has not been defined. Each campaign of drilling would determine the subsequent locations of proposed disturbance based on the geology or mineralization found. Additional details regarding the Proposed Action, along with specific safety plans, can be found in the Existing Oro Cruz Pit Area Exploration Plan of Operations (Plan) (SMP 2021) (**Appendix A**).

Table 2-1 Proposed Surface Disturbance

Surface Disturbing Activity	Proposed Surface Disturbance (acres)*
Improvements to Existing Access Roads	1.43
New Project Access Road	3.31
Staging Area	2.80
Drill Area 1	1.85
Drill Area 2	3.83
Drill Area 3	1.69
Drill Area 4	1.18
Drill Area 5	1.19
Drill Area 6	0.77
Drill Area 7	2.48
Total Proposed Surface Disturbance	20.54

Source: SMP 2021

*Total proposed surface disturbance within Drill Areas 1 through 7 includes the acres of the approximately 6.2 miles (non-consecutive) of proposed temporary drilling access roads anticipated to be constructed within each respective drill area, and the associated drill pads for exploratory drilling sites.

Project personnel would include one operator and foreman per drill rig and one water truck driver for two 12-hour shifts per day. A geologist would also be on-site each day (Tupper 2022).

Project personnel would access the Project Area in four-wheel drive vehicles. Up to two track-mounted drill rigs would be used for drilling in the Project Area at once. Generally, a CAT D8 bulldozer, or equivalent, and a track hoe and/or hoe ram would be used to construct the roads and drill sites where needed. Roads and drill sites would be reclaimed using a bulldozer and/or CAT excavator or equivalent. At any time, one track-mounted drill rig, two 1,000-gallon water trucks, one 2,000-gallon portable water tank for water delivery to the Project, up to five support vehicles, one pipe truck, one 125-kilowatt (kW) generator associated with the drill rig and two 125-kW generators associated with the staging area, two portable air compressors, and one diesel fuel tank would be present within the Project Area.

The helicopter used for access to the eight proposed drill pads not accessible via road or vehicle and to and from the staging area would be flown during daylight hours and would originate from the Yuma Airport. The helicopter would operate up to 10 trips per day during drilling operations and would provide drilling crew member access and delivery of water, fuel, and drilling supplies. The helicopter would be in use at the Project for up to 64 days as drilling operations would be conducted at each drill site for four to eight days over the life of the Project.

2.1.1 Construction Methods

Staging Area

SMP would construct a 2.8-acre staging area in the Project Area to be used as an ancillary area and for exploration activities within the proposed Drill Areas and to access the underground Oro Cruz Mine portal for underground exploration. The staging area would house a 1,000-gallon diesel fuel tank and fueling station, helicopter landing area with a 300-gallon jet fuel tank and refueling station, two diesel-powered generators, two portable compressors, parking for access to the underground mine, a small office and dry shop, and laydown areas for exploration drilling. The staging area would be fenced and gated to prevent public access during Project implementation and through reclamation.

Drilling Areas and Drilling Procedures

Up to 65 drill sites for boreholes are proposed within the Project boundary using reverse circulation or core techniques. The boreholes would be sited within seven Drill Areas (**Figure 2-1**) using a track-mounted drill rig. The anticipated maximum depth for each borehole is approximately 800 feet. Once each borehole is completed, drillers would abandon the hole in accordance with the most current edition of State Water Resources Control Board Bulletin #74-81 and #74-90 prior to continuing on to the next drill site. Each drill site would require a drill pad that would encompass approximately 0.06 acres of surface disturbance within the Project Area. Drill pads would be constructed at approximately 60 feet by 40 feet, the area of which would be cleared in order to hold the drilling collar and sumps for drilling mud (wastewater and fluid), along with all drilling equipment and personnel during construction. Sumps would be approximately 12 feet by 12 feet, six feet deep, and sloped at a ratio of approximately 2H:1V (horizontal to vertical) on one side to allow for wildlife egress out of the sump, if needed. Any water encountered or generated by drilling would be fully contained within the drill sumps, which would be backfilled when drilling is completed and once all water is evaporated.

Helicopter-Accessed Drill Sites

Drill sites requiring helicopter access would be cleared by hand where necessary and would require a drill area that is at maximum 60 feet by 40 feet. The proposed helicopter drill rigs are unitized to enable

disassembly, and complete equipment specifications are further described in the Plan (SMP 2021). The helicopter would be used to complete heavy lifts and deliver the drilling rig components in sequence on a long-line lanyard for reassembly at each site. A steel skid would be placed directly on the ground surface if a level drill is able to be established using hand tools. If additional leveling is required, 10-inch by 10-inch timbers would be used to create a temporary cribbing structure for the skid set to sit on. The cribbing would not exceed four feet in height at the low elevation points of the drill site. The cribbing would be fastened together using steel spikes and fully disassembled and removed upon completion of each drill hole. Helicopter-accessed drill sites would include all drilling equipment and personnel during construction and operation, as well as two hand dug sumps (12-feet by 12-feet) on the downslope sidehill. A portable toilet would be provided at each site. No support trucks or water trucks would be provided at the helicopter-accessed sites, as they would be accessed by helicopter and cleared entirely by hand. Water, fuel, and supplies required for the drilling process would be delivered by helicopter. When necessary, daily crew changes would be conducted by helicopter.

Access, Road Improvements, and Construction

Access to the proposed drill pads would be gained via existing and new roadways and via a helicopter originating daily from the Yuma Airport. Existing BLM-authorized access roads would be used to the extent possible, including Interstate 8, Blythe Ogilby Road (State Route 34), and Gold Rock Ranch Road. Where existing access roads are not accessible for the Project Area, SMP proposes to construct an estimated 6.2 miles of temporary access roads for exploration drilling. New access roads for exploration drilling would not disrupt the surface except where necessary to gain safe access. These roads would be used temporarily for access to the drill sites and would require a 12-foot width for drilling equipment access. New access roads would be used strictly for Project support vehicles to access the exploration Drill Areas and would be equipped with signage noting restricted access. The exact location of proposed surface disturbance associated with the new temporary access roads may change as exploration activities progress, dependent upon the exact drill sites chosen; therefore, the full extent of the disturbance locations has not been defined because each campaign of drilling would determine the subsequent locations of proposed disturbance based on the geology or mineralization found during drilling activities within each Drill Area. SMP also proposes to construct an estimated 9,640 linear feet (1.8 miles) of a new 15-foot-wide road for access to the proposed staging area, which would remain as a post-closure feature after the one to two years of exploratory drilling has been completed to support reclamation, monitoring, and underground exploration activities, which would be completed and remaining surface disturbance reclaimed within five years from Project implementation. The road would be secured from unauthorized access for the duration of the Project, including post-closure activities. A gate would be constructed and placed across the road along with implementation of sufficient deterrents (fencing, a berm, or large boulder) on either side of the gate.

The helicopter used for access to up to eight drill pads would be flown during daylight hours and would be in use up to 64 days at the Project. The helicopter would operate up to 10 trips per day during drilling operations and would provide drilling crew member access and delivery of water, fuel, and drilling supplies.

To restrict access to Drill Areas 1 and 6, where needed, barriers constructed of on-site materials from areas disturbed by the Project would be installed to prevent unauthorized vehicular traffic from interfering with the reclamation of access roads, and signs would be posted indicating such roads were accessible for authorized use only. The conceptual locations of the planned safety barriers (or berms) are shown in **Figure 2-1**. Berms would be six feet in height and placed along new access routes to prevent public access to the Drill Areas. To restrict access to Drill Areas 2 through 5 and Drill Area 7, Gold Rock Ranch Road is equipped with an existing gate at the intersection with Tumco Wash that would serve as a safety barrier from the Project Area access roads. Road fill would be stabilized and maintained during and following construction to prevent erosion.

Road construction would be conducted using a CAT D8 bulldozer or equivalent. Vegetation disturbance would be avoided to the maximum extent possible. No maintenance is planned for improved existing roads,

as the Project would use existing roads for approximately 12 to 24 months during active drilling, after which the roads would be reclaimed to pre-disturbance conditions through revegetation. Road improvements would require selected stretches of existing access roads to be bladed and cleared of vegetation. Most of the existing roads in the Project Area are approximately six feet wide, and it is assumed that road improvements would require approximately six feet of additional disturbance for road widening.

Water Management

Water would be required during drilling activities, and the drill holes could encounter groundwater during such activities. Water for both drilling and dust suppression would be provided by the drilling company via a water truck and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma. It is anticipated that two 1,000-gallon water trucks would be required on-site each day. A 2,000-gallon portable water storage tank would also be available on-site for drilling and dust suppression.

Potentially encountered groundwater from drilling would be minimal in volume and would mix with bentonite drilling mud and ground rock at depth within a drill hole. Water would be managed at each drill site after it is pumped out of the drill holes by recirculating it for use in the drilling process, removing the water and hauling it away, or by evaporation and allowing solids to settle in excavated mud pits or sumps at the drill site. The sumps would be backfilled after the water has evaporated and drilling operations have been completed at the drill site. There would be no discharges outside the drill site or in surface tributaries, and no pollutants would be discharged in accordance with requirements of the CWA. Additionally, as required, the Project would be conducted pursuant to the State of California Construction General Permit for stormwater discharges.

Upon completion of exploration activities, exploratory boreholes would be sealed and abandoned in compliance with the most current edition of the State Water Resources Control Board Bulletin #74-81 and #74-90.

Hazardous and Solid Waste Management

No hazardous substances would be used during exploration activities, and no hazardous substances would be generated by the Project.

Fuel and lubricants would be stored in a reservoir to prevent leakage. During exploratory drilling activities, the drill rig would be parked on top of plastic sheeting overlain by absorbent clay or shale substances. A Spill Contingency Plan is outlined in Section 4.8 of the Plan (**Appendix A**) to prevent, control, and mitigate releases of oil and petroleum products to the environment (SMP 2021).

Solid waste generated by the Project would be collected in appropriate containers and removed from the Project Area. Project-related refuse would be hauled to an authorized landfill for disposal in accordance with applicable laws and regulations. No refuse would be disposed of on-site in the Project Area.

Schedule

Project mobilization, road construction, drilling, and borehole abandonment would be completed within 12 to 24 months. Drilling operations would be conducted at each drill site for four to eight days. Construction activities at the staging area, underground drilling via the Oro Cruz Mine Portal (located within Drill Area 1), and exploratory drilling within Drill Area 1 (**Figure 2-1**) would be implemented first. It is anticipated that one or two drill rigs would be in operation at a time within the Project Area and would operate on either a 12- or 24-hour-per-day schedule, at 12 hours per shift. Drill Areas would potentially be revisited a second or third time for additional drill site locations based on the initial findings.

2.1.2 Reclamation and Monitoring

As stated in **Section 1.1**, a Reclamation Plan has been prepared for the Project in accordance with the requirements under SMARA. The proposed exploration operations and site reclamation of the Project is evaluated within this EA/MND pursuant to CEQA. A summary of the Reclamation Plan is provided below, and complete details are provided in *SMP – Oro Cruz Exploration Project Reclamation Plan* (Sespe 2022), on file with Imperial County (Reclamation Plan #21-0001).

Reclamation Schedule

Exploration activities would occur over approximately two years, inclusive of ongoing reclamation at completed drill sites throughout the life of the Project, with active drilling exploration expected to occur in stages over that period. SMP would reclaim the Project Area to a state readily adaptable for land uses consistent with mining, recreational uses, and open space to complement adjacent land uses. Exploration and reclamation activities would comply with all Mine Safety and Health Administration (MSHA) and California's Division of Occupational Safety and Health safety regulations concerning operating standards and operation of equipment (Sespe 2021).

Due to the small-scale nature of the Proposed Action, the Project is not anticipated to result in substantial environmental impacts and, thus, would not require extensive monitoring upon closure. Reclamation would occur concurrently with exploration activities. Once access to the Project Area is no longer required by SMP, the Project Area would be reclaimed and revegetated, after which point it would be monitored and maintained annually in late spring or early summer for three years to ensure that revegetation efforts have been established and reclaimed areas are stable.

Project reclamation would be completed concurrently for exploratory drilling activities, and monitoring for the success of reclamation of those areas would be completed within five years of Project implementation. The access road for access to Drill Area 1, the staging area, and underground activities at the Oro Cruz Mine Portal within Drill Area 1 would remain post-closure until underground exploration activities are completed, which would be completed and remaining surface disturbance reclaimed within five years from Project implementation.

Drill Pads

Once drilling is completed, each drill pad would be graded and recontoured, and a seed mix would be applied to reestablish vegetation communities. Revegetation would require site-appropriate, BLM-approved native seed mixtures. A diverse native plant community would be targeted through the definition of seed mixtures and application rates. Just prior to seeding, the qualified biologist/revegetation specialist would determine the final species type and application rates based on the amount and quality of the seeds that are sourced for the Project. The seed mix would be designed to include native, non-invasive species that are compatible with the existing landscape and diversity of species and plant type to promote a sustainable vegetative cover as well as a variety of germination periods and seasonal growth. Detailed information of the type and amount of seeds planted would be recorded. During construction, the sumps at each drill pad would house drilling fluids, and the excavated materials would be placed at the sites of the pads and stored until backfilled into the sumps as part of reclamation, which would be followed by pushing any salvaged topsoil/subsoils. The sumps would be allowed to evaporate before backfilling would occur.

Roads

The proposed new roads that would be constructed under the Proposed Action would be temporary and reclaimed concurrently throughout the life of the Project, except for the new road for access to the underground portal (**Figure 2-1**), which would be considered the main entrance road to the Project Area after construction and would remain through completion of underground exploration and post-closure reclamation and monitoring activities, which would be completed and remaining surface disturbance reclaimed within five years from Project implementation. The interface between existing roads and the

proposed temporary access roads would be camouflaged with vertical mulching. Roads would be reclaimed by placing recovered topsoil/subsoil stored along the roadway edges and blading the surfaces prior to revegetating. The same seed mix that would be applied to the drill pads would be used for revegetation along the roads. Pre-existing roads would be maintained per existing conditions and would not be reclaimed as they represent pre-existing disturbance and would continue to be used in the future as they are currently.

Closure of roads that are not needed for post-closure access would involve recontouring fill while maintaining satisfactory drainage. Roads not needed for post-closure access would be reclaimed. Where necessary, rock or earthen berms and water bars would be placed to prevent vehicular access and reduce erosion.

Slopes and Regrading

Significant recontouring and/or revegetation of slopes is not anticipated as no significant slopes would be created as a result of the proposed exploratory drilling and related ancillary operations. If needed, SMP would flatten all slopes and floors using mobile equipment to ensure no slopes exceed a 2H:1V (horizontal to vertical) angle in accordance with the performance standards of SMARA Section 3704. Following abandonment of the exploratory boreholes, any remaining drill cuttings would be spread out on the drill pad surfaces and reseeded in accordance with the revegetation measures discussed below. Proposed revegetation in applicable portions of the Project Area would help to further stabilize any regraded areas and slopes and would prevent erosion once roots are established.

Backfilling

No mining excavation would occur as the Project includes exploration drilling activities; therefore, significant backfilling of materials would not be required, and no mine wastes and/or tailings would be generated by the Project.

Salvaged Soil

There is limited potential to salvage topsoil and subsoil for use as a growth medium for revegetation; topsoil and subsoil would be salvaged where feasible by pushing the material along the edge of the drill pads and along the sides of the proposed new access roads. Once drilling is complete, the stored topsoil and subsoil would be spread out and reseeded.

Exploratory drilling would utilize mud sumps to house drilling fluids, which would be dug during development of the drill pads or as part of the drill rig setup. Once drilling is complete, each exploratory borehole would be abandoned in accordance with Imperial County drilling permit conditions and applicable state standards. The mud pits would be allowed to evaporate, and the stored excavated materials would then be reintroduced into the pits, followed by pushing salvaged topsoil/subsoils. Any topsoil or subsoil that is salvaged would be reseeded as part of the revegetation efforts.

Revegetation

Portions of the Project that are proposed to be reclaimed for open space would be reseeded to establish a vegetative landscape that is generally similar to the existing plant communities within the Project Area. Following completion of exploratory drilling, equipment demobilization, and surface preparation of the roads and drill pads, revegetation activities would be undertaken, including installation of erosion control devices where necessary, such as waddles; application of seed mix either by hydroseeding or mechanical broadcasting; and maintenance and monitoring. Prior to application of the proposed seed mixes, SMP would work closely with a qualified biologist/revegetation specialist to review the final contours, hydrology, and soil composition of the areas proposed for revegetation to determine optimal broadcast rates and modify the overall revegetation plan, as appropriate. Revegetation would ultimately be achieved through a combination of site preparations, planting activities, and ongoing maintenance procedures. A detailed revegetation plan, including proposed seed mix specifics, is provided in the Reclamation Plan (Sespe 2022).

2.1.3 Project Design Features

PDFs would be implemented to protect resources during mineral exploration activities that would be conducted under the Proposed Action. PDFs that would be implemented under the Proposed Action are included in the Plan (SMP 2021) and **Appendix F**.

2.2 *No Action Alternative (NEPA)*

Under the No Action Alternative, the Project would not be approved by the BLM. The 626.3-acre project area would remain available for other existing and future multiple-use activities, including future mineral exploration and mining activities, or for other purposes, as approved by the BLM.

2.3 *Alternatives Considered but not Analyzed in Detail (NEPA)*

2.3.1 Access Road Restriction Alternative

Under this alternative, the BLM considered restricting access to the Project via the existing access road (an unnamed BLM road) off of Blythe Ogilby Road that runs through the Tumco Wash (**Figure 2-1**) to prevent vehicles and equipment from traveling and operating within the wash. This alternative was assessed to determine feasibility of restricting Project access away from the washes, thus reducing impacts to desert tortoise habitat that is used for forage and shelter. This alternative was ultimately dismissed, as the existing access road through the Tumco Wash (**Figure 2-1**) would require no improvements and would be necessary for access to the west and north portions of the Project Area with minimal environmental impacts beyond existing conditions as the road is currently used by commercial activities for access to existing operations in the vicinity. Therefore, this alternative was deemed not environmentally reasonable, as road improvements or new road construction for Project Area access would have greater environmental impacts than use of the existing access road through the Tumco Wash that does not require improvements. Under the Proposed Action, SMP has included several PDFs (**Appendix F**) to minimize impacts to desert tortoise, and the BLM would require a mitigation measure for SMP to install exclusionary fencing around the access road to prevent desert tortoise crossings and collisions with individual species within the wash.

2.3.2 Seasonal Restriction Alternative

Under this alternative, Project activities would be restricted to the summer season (June through August). This alternative was assessed to determine feasibility of conducting exploratory drilling and associated activities during the recreation off-season when recreationalists would be less likely to visit the Project Area due to extreme temperatures. This alternative was not carried forward for analysis as the seasonal restriction would overlap with the avian nesting season (February 1 – August 31), potentially causing additional impacts to avian species and their nests that are present in the Project Area if exploratory drilling activities were to commence only during the summer months, making this alternative not environmentally feasible as it would lead to greater environmental impacts to wildlife species. Additionally, this alternative could lead to greater human health and safety concerns due to Project personnel working in high temperatures during the summer season, which could lead to unsafe working conditions and greater risk of heat stress. Therefore, this alternative was deemed infeasible. Under the Proposed Action, notices would be posted on the BLM's website and at designated recreational sites in the area notifying the public of dates and times that drilling would occur, bringing awareness to potential elevated levels of noise and activity in the Project Area.

2.3.3 Helicopter Access Only Alternative

This alternative was assessed to determine the feasibility of accessing all proposed drill sites by helicopter to minimize surface disturbance. Under this alternative, there would be no construction of new access roads or any road improvements. This alternative was dismissed from analysis as it was determined that it would lead to greater human health, safety, and biological concerns; therefore, this alternative was deemed not environmentally reasonable. As described in the Plan, SMP requires the construction of a new road to access the Oro Cruz Mine Portal and staging area within Drill Area 1 (**Figure 2-1**). The increase in noise generated by helicopter use for access to all drill sites would increase impacts to wildlife and recreation, and human health and safety would be impacted from the safety concerns of increased helicopter use.

3.0 Affected Environment and Environmental Impacts

This chapter describes the affected environment and existing conditions that have the potential to be affected by activities related to the Proposed Action and alternatives described in **Chapter 2**, as well as the anticipated environmental impacts and impact analyses of implementing these actions. This chapter combines the discussion of environmental impacts in accordance with the requirements of NEPA and the analysis of the Project's potential impacts on the environment in accordance with CEQA, which is presented using the CEQA IS format, specifically Imperial County's applicable checklist from Appendix G of the State CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3, 15000-15387).

To comply with NEPA, the BLM is required to address specific elements of the environment that are subject to requirements specified in statutes, regulations, or by Executive Order (EO). The resources listed in **Table G-1** of **Appendix G** have been reviewed and identified by BLM resource specialists as either 1) not present in the area impacted by the proposed or alternative actions, 2) present, but not affected to a degree that detailed analysis is required, or 3) present with potential for relevant impact that needs to be analyzed in detail in the EA. **Table G-1** of **Appendix G** lists the resources considered for analysis that may be affected by the Proposed Action or alternatives and that are discussed further in this chapter. Those elements listed in **Appendix G** that are not present within the Project Area or areas of analysis are not discussed further in this EA. The IS/MND identifies site-specific conditions and Project-specific impacts, evaluates their potential significance pursuant to applicable CEQA thresholds, and proposes ways to sufficiently avoid or mitigate impacts that are potentially significant to less than significant levels. The IS/MND was completed by Imperial County as the lead agency analyzing the Project, specifically approval of the Reclamation Plan, in accordance with CEQA. The information, analysis, and conclusions included in the IS/MND provide the basis for determining the appropriate document needed to comply with NEPA and CEQA. Based on the analysis provided herein, it was determined that the Project would not have a significant impact on the environment through implementation of applicable mitigation measures. The determination of significance under NEPA occurs via a FONSI, as appropriate. The FONSI has been prepared under separate cover and was published, unsigned, for a 30-day public review period concurrent with the EA. Based on the results of the IS/MND, the BLM and Imperial County determined that an EA/MND was the appropriate NEPA and CEQA document for the Project per the analysis provided in this chapter.

3.1 NEPA Environmental Impacts

This chapter presents an analysis of the potential environmental impacts of the Proposed Action and the No Action Alternative in accordance with NEPA. The analysis areas vary by resource and are discussed under each respective Affected Environment section below. The analysis of the Project includes direct, indirect, and cumulative effects. The CEQ Regulations define direct effects as those which are caused by the action and occur at the same time and place, and indirect effects as those which are caused by the action and occur later in time or are further removed in distance. In accordance with NEPA, determination of significance is reserved for the FONSI prepared for the Project, as appropriate. The effects analysis definitions considered for each of the resources considered for analysis in this chapter are provided below:

Negligible: Impacts to resources could occur, but they would be so slight as to not be measurable or distinguishable from existing conditions.

Minor: Impacts to resources would be measurable or perceptible and local; however, the overall viability of the resource would not be affected, and without further adverse impacts, the resource would recover. Impacts would be detectable.

Moderate: Impacts would be sufficient to cause a change in the resource viability; however, the effect would remain local. The change would be measurable and perceptible, but the negative effects may be reversed in the long term.

Major: Impacts would be substantial, highly noticeable, and may be permanent in their effect on resources without active management.

Short-term: Impacts to resources would occur up to two years, which is the anticipated duration of Project construction and operations.

Long-term: Impacts to resources would occur past the life of the Project and reclamation, which in total is anticipated to occur up to five years.

Localized: Impacts are confined to a small part of the resource area of analysis or range, or within the Project Area.

Regional: Impacts would affect a widespread area beyond the resource's area of analysis.

Cumulative impacts are determined by analyzing potential impacts from past, present, and reasonably foreseeable future actions (RFFAs) combined with the action alternatives within the Cumulative Effects Study Area (CESA) specific to the resources for which impacts may be anticipated. This analysis focuses on cumulative impacts of the Proposed Action and the action alternatives within the CESA. Major past and present land uses and disturbances within the CESAs that are projected to continue into the future include mineral development and exploration, utilities, infrastructure and public purpose projects, and roads. Dispersed recreation (including hunting and off-highway vehicle [OHV] use) also occurs and is expected to continue in portions of the CESAs. Past and present actions are included in the affected environment descriptions in this chapter as they are part of the existing environment. Cumulative impacts are analyzed for resources where an impact above negligible was identified within the analysis of environmental impacts. If the Proposed Action was determined to have a negligible or no impact with the implementation of PDFs or additional mitigation measures, a cumulative analysis was not completed as there would be no impact to add to the environment (see BLM Handbook H-1790-1, p. 57). Cumulative impacts for Air Quality, ACECs, Climate Change, Conservation Lands, Cultural Resources, Environmental Justice, Noise, Travel and Transportation, Visual Resources, and Water Resources were not included based on the outcome of the impact analysis herein. The boundaries of the CESAs delineated for a cumulative impacts analysis vary by resource and considered the extent to which the environmental effect from the Project could be reasonably detected and defined the geographic area impacted. Cumulative effects were evaluated in terms of the specific resource, ecosystem, and human community being impacted.

3.2 *CEQA Checklist and Impact Analysis*

The IS (IS #21-0029) evaluates environmental impacts based in part on the checklist criteria contained in Appendix G of the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, 15000-15387); these questions, which are included in an impact assessment matrix for each environmental/resource category are guidelines “intended to encourage thoughtful assessment of impacts” and guide the determination of significance of potential project impacts. Where there is a possibility for the action to affect a specific resource, there is a discussion of the direction and magnitude of the impact. Each question is followed by a check-marked box with column headings that are defined below:

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more “Potentially Significant Impacts,” a Project EIR may need to be prepared.

- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would reduce the identified effect(s) to a less than significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant effects. The Project’s impact is less than significant even without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any impact in the category or the category does not apply. When the determination in the checklist is “No Impact”, and there is no possibility for the Project to have an effect on the resource, there is no explanation of the answer. Where this Project could be presumed to have an effect on the resource in question, there is an explanation provided for any “No Impact” determinations. All other determinations are accompanied by an explanation.

3.2.1 Potentially Affected Environmental Factors

The following environmental factors below in **Table 3-1** would be potentially affected by this Project.

Table 3-1 Environmental Checklist

<input checked="" type="checkbox"/>	Aesthetics	<input checked="" type="checkbox"/>	Agriculture and Forestry Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input checked="" type="checkbox"/>	Energy
<input checked="" type="checkbox"/>	Geology /Soils	<input checked="" type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards & Hazardous Materials
<input checked="" type="checkbox"/>	Hydrology / Water Quality	<input checked="" type="checkbox"/>	Land Use / Planning	<input checked="" type="checkbox"/>	Mineral Resources
<input checked="" type="checkbox"/>	Noise	<input checked="" type="checkbox"/>	Population / Housing	<input checked="" type="checkbox"/>	Public Services
<input checked="" type="checkbox"/>	Recreation	<input checked="" type="checkbox"/>	Transportation	<input checked="" type="checkbox"/>	Tribal Cultural Resources
<input checked="" type="checkbox"/>	Utilities/Service Systems	<input checked="" type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

Detailed descriptions and impacts from Project activities and the basis for their significance determinations are provided for each environmental factor in the remainder of this chapter. Relevant laws, regulations, and policies potentially applicable to the Project Area are discussed in **Section 1.4**.

3.2.2 Agency Determination

After review of the Initial Study (IS #21-0029, incorporated herein throughout the remainder of this chapter), the Environmental Evaluation Committee has:

Found that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

Found that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

Found that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DE MINIMIS IMPACT FINDING: Yes
 No

for MEAH 8-31-2023

Signature

Date

Jim Minnick

Director of Planning/Environmental Evaluation Committee Chairman

Imperial County Planning Department

3.3 Air Quality

3.3.1 Initial Study Determination (CEQA)

Table 3-2 provides the impact determinations for air quality based on significance criteria established by the Imperial County Air Pollution Control District (ICAPCD).

Table 3-2 Air Quality Environmental Checklist

Air Quality Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Expose sensitive receptors to substantial pollutants concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.3.2 Affected Environment

The area of analysis is the Project Area and proposed disturbance footprint, which includes drill areas and access roads (Figure 3-1). The federal Clean Air Act is the primary controlling legislation over air quality. Ambient air quality and the emission of air pollutants are regulated under both federal and state law and regulations. Ambient air quality is affected by the type and amount of air pollutants emitted into the atmosphere, the size and topography of the air basin, prevailing meteorological conditions, and the conversion of air pollutants and other particles by a complex series of chemical and photochemical reactions in the atmosphere. Regulatory air standards that are potentially applicable to the Project include the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) and are summarized in Table 3-3. The California Air Resources Board (CARB) is the agency in the State of California delegated with the responsibility for air quality monitoring via the California Ambient Air Monitoring Network and administering a State Implementation Plan (SIP), which delineates strategies for compliance with federal clean air standards (CARB 2021). The CARB additionally is responsible for overseeing the state’s 35 air pollution control districts (APCDs), which are responsible for issuing pre-construction and operating permits within their jurisdictions. The ICAPCD is responsible for enforcing the rules outlined in Regulations I through IX in the California SIP within the district, as well as for implementing the Prevention of Significant Deterioration Program (EPA 2021a).

Table 3-3 National Ambient Air Quality Standards and California Ambient Air Quality Standards within the Area of Analysis

Pollutant	Averaging Period	CAAQS (µg/m³)	NAAQS (µg/m³)
PM ₁₀	24-hour	50	150
	Annual	20	N/A

Pollutant	Averaging Period	CAAQS ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
PM _{2.5}	24-hour	N/A	35
	Annual	12	12
SO ₂	1-hour	655	196
	3-hour	N/A	1,300
	24-hour	105	N/A
	Annual	N/A	N/A
NO _x	1-hour	339	188
	Annual	57	100
CO	1-hour	23,000	40,000
	8-hour	10,000	10,000

CARB 2022a

PM₁₀ = particulate matter 10 microns in diameter or less

PM_{2.5} = particulate matter 2.5 microns in diameter or less

SO₂ = sulfur dioxide

NO_x = nitrogen oxide

CO = carbon monoxide

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Climate and Meteorology

The Project Area is located in the northwestern portion of the Cargo Muchacho Mountains of the Imperial Valley in southeastern California, with elevations ranging from 600 to 800 feet above mean sea level (AMSL) (SMP 2021). Per data from the Gold Rock Ranch Cooperative Station, located approximately three miles west of the Project Area, average maximum summer (June through August) temperatures are approximately 106 degrees Fahrenheit (°F), and average maximum winter (December through February) temperatures are approximately 48°F, and the average annual precipitation is approximately 0.32 inches (WRCC 2021).

Current Conditions

The BLM published the final Rapid Ecoregional Assessment Report for the Sonoran Desert in 2012 (Stritholt et al. 2012), which examines climate change and other widespread environmental influences affecting western landscapes to assist with land use planning and resource management. The Sonoran Desert is considered a subtropical desert that experiences seasonal variability in temperatures, and the Project Area is located within the subregion of the low and dry Colorado Desert. Over the past several decades, the weather, vegetation cover, wildfire regimes, and changes in wildlife habitat have evolved, suggesting a change in climate regime. These changes have been expressed in changes in vegetation communities and land cover, invasive species encroachment, changes in desert tortoise (*G. agassizi* and *G. morafkai*) and big game habitat and population density, and hydrologic alterations in both quality and quantity. Persistent wind and water erosion within the Sonoran Desert Ecoregion have also contributed to changes in soil erosion, leading to higher concentrations of airborne soil particles affecting air quality and visibility (Stritholt et al. 2012).

The Project Area has been previously disturbed by mining activities, and current surrounding land uses include prospecting and recreation. The ICAPCD has designated the area of analysis as an attainment area for all pollutants that have a NAAQS except PM₁₀.

3.3.3 Environmental Impacts (NEPA) – Proposed Action

Travel on access roads and exploratory activities within the Project Area would create emissions, which would have a potential impact on air quality. Fugitive dust, in the form of PM₁₀ and PM_{2.5}, would result

from operation of the following equipment: excavator; five support vehicles; pipe truck; track hoe; hoe ram; two 1,000-gallon water trucks; two portable compressors; one drill rig; two generators; and one bulldozer.

Vehicle emissions, in the form of SO₂, NO_x, CO, volatile organic compounds (VOCs), greenhouse gases (GHGs), and hazardous air pollutant (HAP) emissions would occur any time the internal combustion engines on Project vehicles or aircraft (i.e., helicopters) are operating. An emissions inventory was compiled using US Environmental Protection Agency (EPA)-Air Pollution 42 emission factors. Although unlikely, the two largest phases of the Proposed Action, construction and operations, were conservatively assumed to occur at full capacity, during the same time, to calculate a scenario of potential maximums. The emissions generated by the Project were compared to the EPA’s significant emission rates (40 CFR 52.21) to determine Project impacts on air quality. The calculated tons of emissions for the above identified pollutants, as well as the EPA’s significant emission rates, are provided in **Table 3-4**.

Table 3-4 Annual Emissions Associated with the Proposed Action

Project Emissions Summary* (tons/year)									
Emission Type	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOCs	GHG CO _{2e}	HAP Total
Fugitive Emissions	30.36	7.79	0.79	0.00	0.00	0.00	0.00	0.00	0.00
Non-Fugitive Emissions	0.28	0.28	0.67	0.03	10.90	17.62	1.04	3,021	0.07
EPA Significant Emission Rate	25	15	10	40	40	100	50	75,000	25
Federal Conformity Threshold	NA	100	100	100	100	100	50	NA	NA

CO_{2e} = carbon dioxide equivalent

NA = not available

* Project emissions in this table include both the construction and operations phases under the Proposed Action with controls (i.e., watering for dust suppression).

As shown in **Table 3-4**, maximum yearly predicted emissions generated from the Proposed Action would be below the EPA’s significant emission rates, except for PM, which would exceed the EPA significant emission rate of 25 tons per year. Airborne PM is a mixture of many chemical species of pollutants, including PM₁₀ and PM_{2.5}, rather than a single pollutant. Some PM particles less than 10 micrometers in diameter can pose human health risks as they can get deep into the lungs or bloodstream, and finer particles less than 2.5 micrometers in diameter pose the greatest risks as they can lead to more chronic conditions (EPA 2023b). Particles deposited on a lung surface can cause tissue damage and lung inflammation. Emissions of PM have also been shown to reduce visibility outdoors and adversely affect climate and ecosystems (CARB 2023). As noted above, the annual predicted emissions under the Proposed Action in **Table 3-4** include both the construction and operations phases of the Project to estimate the maximum emissions; however, all phases of the Project would not be continuously operating simultaneously. The highest emissions under the Project would result from exploratory drilling and laydown yard activities, which would occur simultaneously for approximately four to six months during the first year of the two-year Project operations. After Project start-up, activities would occur more dispersed over time due to the intermittent nature of exploratory drilling. Therefore, the estimated annual emissions would not reach the maximum emissions shown in **Table 3-4** as all phases of the Project would not be operating simultaneously each year, leading to much lower overall emissions that would not exceed any federal thresholds. Federal Conformity *de minimis* thresholds are not available for PM, CO_{2e}, or HAPs; however, predicted Project emissions for all other pollutants would be in below the applicable Federal Conformity *de minimis* threshold given in 40 CFR 93.153(b) and would not exceed the federal annual emissions thresholds.

In addition to the annual maximum emissions summarized in **Table 3-4** above, maximum daily emissions resulting from the Proposed Action were also calculated. The daily operational emissions anticipated to be generated by the Proposed Action were compared to the ICAPCD’s emission thresholds (ICAPCD 2022) to determine if Project impacts on air quality require a comprehensive air quality analysis. The calculated daily emissions from the Proposed Action, as well as the ICAPCD operational emissions thresholds, are provided below in **Table 3-5**.

Table 3-5 Daily Operational Emissions Associated with the Proposed Action

Project Emissions Summary (lbs/day)						
Emission Type	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOCs
Proposed Action Operational Emissions*	98.90	20.07	0.22	117.97	107.41	10.56
ICAPCD Operational Emission Thresholds	150	550	150	137	550	137

*Proposed Action emissions included fugitive and non-fugitive emissions

As shown in **Table 3-5**, maximum daily operational emissions generated from the Proposed Action would be below the ICAPCD’s emission thresholds. Emissions were calculated using Tier III emission factors for non-road diesel engines specified in 40 CFR 1039. Anticipated daily operational emissions under the Proposed Action would be below the ICAPCD emissions thresholds. As discussed above relative to federal conformity of anticipated emissions, the highest emissions under the Proposed Action would result from exploratory drilling and laydown yard activities, which would occur simultaneously for approximately four to six months during the first year of the two-year Project operations. After Project start-up, activities would occur more dispersed over time due to the intermittent nature of exploratory drilling. Consistent with ICAPCD guidelines and Imperial County requirements, construction and operation emissions have been quantified separately and compared to the appropriate thresholds in **Tables 3-6** and **3-7** below (note that **Table 3-5** above also summarizes the maximum daily operational emissions associated with the Proposed Action). Per the PDFs for fugitive dust control in **Appendix F**, SMP would comply with all applicable State of California and ICAPCD rules for fugitive dust emissions and GHG emissions. The following relevant standard mitigation measures for construction combustion equipment specified in Section 7.1 of ICAPCD CEQA Air Quality Handbook (ICAPCD 2017) would be implemented:

- Use of alternative fuel or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

With the implementation of PDFs for fugitive dust control to commit to state and county emissions requirements as stated above and included in **Appendix F**, the BLM required mitigation measures listed below, and because the conservative emissions inventory provided above for construction and operations to occur at the same time would be unlikely over a full year, Project emissions for all pollutants would be below all thresholds in **Table 3-4** and **Table 3-5** and would, overall, be in conformance with federal emissions thresholds (40 CFR 93.153(b)). As the implementing authority for the Clean Air Act for projects located in Imperial County, the ICAPCD would be responsible for issuing the permit for operation of stationary sources and the Project would be required to comply with all conditions of the ICAPCD permit. Impacts to air quality under the Proposed Action would be negligible, short-term, and localized.

To further reduce the anticipated PM emissions from road construction, helicopter use/landing, and daily use, the BLM would require the following mitigation measures:

- Idling of all vehicles would be reduced to a minimum necessary for operational capacity.
- The staging area would be stabilized using BLM approved methods during use, and staging area soils would be stabilized upon Project completion.

3.3.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple-use activities as approved by the BLM. Impacts to air quality are not anticipated under the No Action Alternative except for those occurring under existing conditions.

3.3.5 Impact Analysis (CEQA)

- a) *Would the Project conflict with or obstruct implementation of the applicable air quality plan?*

Less Than Significant: The Project is located in the Salton Sea Air Basin under the jurisdiction of the ICAPCD. The ICAPCD’s CEQA Air Quality Handbook (ICAPCD 2017) is the primary guidance document by which potential air quality impacts from residential, commercial, and industrial developments can be quantified and the level of significance determined pursuant to CEQA. In addition to the CEQA Air Quality Handbook, the ICAPCD has also prepared various implementation and maintenance plans that outline steps and rules meant to reduce pollutant emissions and bring the region back into attainment for certain pollutants. Specifically, the ICAPCD has published State Implementation Plans (SIPs) related to ozone (O₃) and particulate matter (both PM₁₀ and PM_{2.5}).

Per the CEQA Air Quality Handbook, the ICAPCD generally notes that a detailed project-specific consistency analysis “is required for large residential developments and large commercial developments, which are required to develop an EIR and/or a Comprehensive Air Quality Analysis Report” (ICAPCD 2017) and “should demonstrate compliance with the most recent ozone Air Quality Attainment Plan (AQAP) and PM₁₀ State Implementation Plan (SIP)” (ICAPCD 2017). A proposed project should also demonstrate compliance with the Imperial County Rules and Regulations as well as applicable state and federal regulations.

Because the Project is a relatively small-scale industrial drilling exploration project, and not a large residential or commercial development, a comprehensive consistency analysis is not required. The Project would also comply with regional air quality rules promulgated by the ICAPCD, as applicable, and participate in reducing regional air pollutant emissions, including those covered by the published SIPs, through compliance with these applicable rules. Furthermore, as discussed under CEQA Criteria b) below, with the implementation of the standard ICAPCD mitigation measures disclosed under **Section 3.3.3** above and the BLM required mitigation measures, Project-specific air emissions during both the construction and operational phases would not exceed the applicable ICAPCD numerical threshold published within the CEQA Air Quality Handbook (ICAPCD 2017). Therefore, through compliance with applicable rules and regulations, and implementation of required control measures, the Project would not conflict with or obstruct implementation of an applicable air quality plan, and impacts would be less than significant with no mitigation required.

- b) *Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less Than Significant: See response to CEQA Criteria a) above. No, the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. CEQA defines cumulative impacts as two or more individual effects which, when considered together, are either significant or “cumulatively considerable,” meaning they add considerably to a significant environmental impact.

By its very nature, air pollution is largely a cumulative impact. The non-attainment status of regional pollutants is a result of past and present development. Future attainment of state and federal ambient air quality standards is a function of successful implementation of the ICAPCD’s attainment plans. Consequently, the ICAPCD’s application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project’s individual emissions would have a cumulatively significant impact on air quality.

As discussed in the CEQA Air Quality Handbook (ICAPCD 2017), the ICAPCD has established significance thresholds to assist lead agencies (in this case the county) in determining whether a proposed project may have a significant air quality impact. Projects whose emissions exceed the thresholds of significance for both the construction and operational phases would be deemed to have a potentially significant adverse impact on air quality. Thus, if Project emissions (change from baseline) exceed thresholds for NO_x, ROG, PM₁₀, SO_x, CO, or PM_{2.5}, then the Project would result in a cumulatively considerable net increase of a criteria pollutant for which the ICAPCD is in non-attainment under applicable federal or state ambient air quality standards.

Based upon the proposed Project activities with the potential to generate criteria pollutants (e.g., vehicles, mobile equipment, drill rig operations, etc.), the Project’s air emissions were quantified. See **Appendix E**, which includes a summary of the estimate Project air emissions, for both construction and operational activities. **Tables 3-6** and **3-7** below were taken from the CEQA Air Quality Handbook and summarize the applicable numerical thresholds by which the Project’s emissions should be compared to determine potential significance pursuant to CEQA. Note that per ICAPCD guidance, for industrial development projects the ICAPCD indicates that the thresholds in **Table 3-7** should be used only to determine significance of the emissions from mobile sources, as stationary source emissions are already subject to mitigation according to ICAPCD Rule 207 (New and Modified Stationary Source) and Rule 201 (Permits Required).

Table 3-6 ICAPCD Thresholds of Significance for Project Construction

Parameters	PM ₁₀ (lbs/day)	ROG (lbs/day)	NO _x (lbs/day)	CO (lbs/day)
Construction	35.12	4.35	63.65	59.50
Threshold	150	75	100	550
Significant	No	No	No	No

Note: Project construction emissions would be generated as a result of “road construction” and “drill site construction.” See **Appendix E** for details regarding the emissions calculations.

Table 3-7 ICAPCD Thresholds of Significance for Project Operations

Parameters	NO _x (lbs/day)	ROG (lbs/day)	PM ₁₀ (lbs/day)	SO _x (lbs/day)	CO (lbs/day)	PM _{2.5} (lbs/day)
Operations	117.97	10.56	98.90	0.22	107.41	20.07
Threshold	137	137	150	150	550	550
Significant	No	No	No	No	No	No

Note: Project construction emissions would be generated as a result of “exploratory drilling” and “laydown yard activities.” See **Appendix E** for details regarding the emissions calculations.

Project air emissions resulting from construction activities are estimated to be below the applicable ICAPCD construction thresholds for all pollutants. Project air emissions resulting from operational activities are estimated to be below the applicable ICAPCD operational daily thresholds for all pollutants. Furthermore, with the implementation of standard mitigation measures for construction combustion equipment from the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017), as specified above in **Section 3.3.3**, which were not accounted for in the emissions estimates presented above, the Project would generate fewer pollutant emissions than was conservatively accounted for in **Table 3-6** and **Table 3-7** above.

Furthermore, while construction PM₁₀ emissions can vary greatly depending on the phase of construction, level of activity, and other factors, there are feasible mitigation or control measures that can be reasonably implemented to significantly reduce PM₁₀ emissions. Because particulate emissions from construction activities have the potential of leading to adverse health effects as well as nuisance concerns, such as reduced visibility, all projects are required to mitigate construction impacts by regulation. The CEQA Air Quality Handbook (ICAPCD 2017) presents a summary of standard mitigation measures for the control PM₁₀ as adopted by the ICAPCD in a set of rules, collectively known as Regulation VIII (Fugitive Dust Rules). Another source of construction-related emissions comes from the use of diesel-powered construction equipment, which has been known to produce ozone precursor emissions and combustion-related particulate emissions. In accordance with ICAPCD requirements, these standard construction mitigation measures would be implemented to reduce PM₁₀ and ozone precursor emissions during road and drill pad construction. Specifically, the Project would comply with ICAPCD Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which prescribe measures for the management of windblown dust. Additionally, consistent with ICAPCD Rule 801, SMP will develop a site-specific Operation Dust Control Plan. SMP will submit the Operation Dust Control Plan to the ICAPCD, and consistent with Rule 801 requirements, approval would be obtained a minimum of 10 days prior to the first ground disturbing activities as a result of the Project.

Therefore, through implementation of the ICAPCD's standard construction fugitive dust controls and standard construction mitigation measures, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard. Because the Project would not result in a significant net increase in criteria pollutant emissions, the Project would have less than significant impacts related to criteria air pollutant emissions.

c) Would the Project expose sensitive receptors to substantial pollutants concentrations?

Less Than Significant: See responses to CEQA Criteria a) and b) above. No, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors include schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent homes, hospitals, retirement homes, and residences. The closest sensitive receptor is the Gold Rock Ranch RV Resort located approximately 2.3 miles west of the Project Area.

When evaluating whether a development proposal that has the potential to result in localized impacts, the nature of the air pollutant emissions, the proximity between the emitting facility and sensitive receptors, the direction of prevailing winds, and local topography must be considered.

The ICAPCD does not have any published numerical thresholds related to Project-specific toxic or hazardous air pollutant emissions. Project activities that could potentially result in Toxic Air Emissions (TACs) include operations of equipment and vehicles, which would generate Diesel Particulate Matter (DPM), as well as disturbance of soils, as various substances found in fugitive dust emissions could potentially result in health risks (e.g., metals and crystalline silica). However, due to the relatively low level of on-site industrial activity, and the large distance between the Project Area and the nearest sensitive receptor, the Project's potential health risk impacts are considered low. Furthermore, in accordance with

EPA requirements, total annual emissions of Hazardous Air Pollutants (HAPs) were estimated. Total Project HAPs emissions were estimated to be 0.04 tons per year, which is well below the applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) limit of 10 tons per year applied to “area sources.”

Due to the distance between the Project site and nearby receptors, the proposed exploration activities, the short-term nature of the Project (i.e., operations would be limited to 12 to 24 months), and the fact that SMP would comply with applicable Imperial County rules and regulations required to limit air emissions, the Project would not expose nearby sensitive receptors to substantial pollutant concentrations; therefore, there would be less than significant impacts related to TAC emissions.

d) Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people?)

No Impact: See response to CEQA Criteria a), b), and c) above. No, the proposed Project would not result in other emissions, such as odor, adversely affecting a substantial number of people. None of SMP’s proposed exploration operations (i.e., drill pad/access road formation, exploratory drilling, ancillary activities) would generate significant odor emissions that could impact nearby receptors. The Project also does not fall within one of the designated “Potential Odor Sources” categories outlined in the ICAPCD’s CEQA Air Quality Handbook. The Project would comply with applicable ICAPCD rules, regulations, and permit conditions, including those that control odor; therefore, the proposed Project would not adversely affect a substantial number of people, and no impacts would occur.

3.4 Agriculture and Forest Resources

3.4.1 Initial Study Determination (CEQA)

Table 3-8 provides the determination of impacts to agricultural and forest resources. When determining significant environmental effects to agricultural resources, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by CARB.

Table 3-8 Agriculture and Forest Resources Environmental Checklist

	Agriculture and Forest Resources Criteria	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.2 Affected Environment

There are no grazing allotments that overlap the Project Area and no forest resources are present; therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1** of **Appendix G**.

3.4.3 Impact Analysis (CEQA)

- a) *Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact: No, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Project is located in a remote desert area of the Tumco mining district in the Cargo Muchacho Mountains, and the Project Area has been previously disturbed by historical mining operations. Current surrounding land uses include prospecting and recreation. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are mapped within the Project area (California Department of Conservation, 2018). As shown on the “Imperial County Important Farmland 2018” map produced by the State Department of Conservation (DOC) Farmland Mapping and Monitoring Program (<https://www.conservation.ca.gov/dlrp/fmmp/Pages/Imperial.aspx>), the entire Project site and adjacent areas are designated as “Other Land.” As such, no impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur because of the Project.

- b) *Would the Project conflict with existing zoning for agricultural use, or a Williamson Act Contract?*

No Impact: See response to CEQA Criteria a) above. No, the proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. As discussed above, the Project is located in a remote area of the Tumco mining district in the Cargo Muchacho Mountains. Neither the Project site nor surrounding areas are currently used for agricultural purposes. Per the current Imperial County General Plan (Imperial County, 2015), specifically the Land Use Map (updated March 1, 2007) and Zoning Map (Zone 70), the entire Project site has a General Plan designation of “Recreation/Open Space” and a Zoning designation of “BLM”. Neither the Project site nor surrounding areas are zoned for agricultural use or are under a Williamson Act contract, and no zoning changes are proposed. Therefore, no impacts would occur.

- c) *Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

No Impact: No, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned as Timberland Production. As discussed under CEQA Criteria a) and b) above, the Project area is located in remote desert area that has been previously disturbed by historical mining activities. The Project area is not zoned for forest land or timberland, and no zoning changes are proposed. Therefore, no impacts pertaining to zoning for forest land or timberland would occur.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact: No, the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. As discussed under CEQA Criteria b) and c) above, the Project site and surrounding areas are comprised of undeveloped desert lands that have been disturbed by historical mining activities, and areas currently used for prospecting and recreation. No forest land exists within or adjacent to the Project site. Therefore, no impacts related to the loss of forest land or conversion of forest land to non-forest use would occur.

e) Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact: No, the proposed Project does not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use. As discussed under CEQA Criteria a), b), c) and d) above, the Project site and surrounding areas are comprised of undeveloped desert lands, previously disturbed by historical mining activities, and currently used for prospecting and recreation. The Project site and the surrounding areas do not contain farmland or forest land (DOC, 2022); therefore, the proposed Project would not result in the conversion or loss of agriculture or forest land, and no impacts would occur.

3.5 Areas of Critical Environmental Concern

3.5.1 Initial Study Determination (CEQA)

ACECs are not a separate resource category analyzed in the IS under CEQA, therefore, no determinations or environmental impacts are provided for a CEQA impact analysis herein.

3.5.2 Affected Environment

The area of analysis for impacts to ACECs includes the Project Area, as the majority of the Project Area falls within the Picacho ACEC (**Figure 1-1**). The Picacho ACEC consists of approximately 184,500 acres of land to protect cultural and biological resources while providing compatible recreational opportunities in the Colorado Desert and Lake Cahuilla Ecoregions (BLM 2016). ACECs are public lands where special management is required in order to protect the area's values. To be eligible for designation as an ACEC, an area must meet criteria for both relevance and importance. An ACEC possesses significant historic, cultural, or scenic values, fish or wildlife resources, natural processes or systems, or natural hazards. The Picacho area was designated as an ACEC based on critical habitat for desert tortoise populations, preservation of wilderness character, and numerous prehistoric and historic archaeological sites within the area, which include remnants of the Tumco historic gold mining district and the Quechan Area of Traditional Cultural Concern (BLM 2016). Mineral entry within the Picacho ACEC has not been withdrawn; therefore, locatable mineral exploration and development is not prohibited on lands within the ACEC. The DRECP specifies that development in the Picacho ACEC is limited by a ground disturbance cap of below one percent however disturbance caps are not something that can be used to reject a project's Plan of Operations or Notice level activities under the Mining Law of 1872. Disturbance caps would effectively deny access to exploration and mining development from areas that have exceeded the disturbance cap; however, denying

access to areas that are open to mineral development would violate the Mining Law of 1872. The DRECP includes guidance on how BLM will manage discretionary actions, such as mineral material sales, which are subject to BLM mitigation policies under the DRECP. Under the Mining Law of 1872, projects regulated under 43 CFR 3809 are not discretionary in the same sense, and BLM must enforce the performance standards under 43 CFR 3809.420. Many of the LUPA-wide CMAs are relevant to those performance standards and can be applied; however, mitigation, particularly off-site mitigation, is not something BLM is able to require for projects that are regulated under the Mining Law of 1872, but onsite mitigation, which is included in 43 CFR 3809.420(a)(4), is allowed. Mitigation is defined under 43 CFR 3809.5 and would need to be associated with compliance with other federal laws (e.g., ESA, NHPA, etc.).

3.5.3 Environmental Impacts (NEPA) – Proposed Action

As described above, disturbance caps cannot be used to reject a project's Plan of Operations for projects regulated under the Mining Law of 1872 and the requirements of 43 CFR 3809. However, potential mitigation for impacts to ACECs may include one or more of the following per 40 CFR 1508.20: (1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (5) Compensating for the impact by replacing or providing substitute resources or environments. Where project components are proposed to occur on undisturbed land, the DRECP would otherwise require additional compensatory mitigation, but compensatory off-site mitigation is not within BLM's discretion to require for Mining Law actions within the FLPMA framework. Situations where BLM lacks discretion to require compensatory mitigation are recognized in the DRECP as an exception to the disturbance mitigation requirement (BLM 2016, p.35, p.17848). BLM has further elaborated on the topic of mitigation in the Federal Register/Vol. 65, No. 225/Tuesday, November 21, 2000/Rules and Regulations p. 70012. There, BLM acknowledges that Section 302(b) and 303(a) of FLPMA, 43 U.S.C. 1732(b) and 1733(a), and the mining laws, 30 U.S.C. 22, provide BLM the authority for requiring mitigation within certain contexts; however, the final rule does not require compensatory mitigation. BLM thus requires mitigation to prevent unnecessary or undue degradation where such mitigation can be performed onsite; however, operators may voluntarily commit to performing off-site mitigation (including compensatory mitigation). Mitigation requirements would be fulfilled through the measures elaborated in the PDFs (**Appendix F**) and through adherence to the 43 CFR 3809.420 performance standards. Under the Proposed Action, SMP has committed to specifically avoid the resources the Picacho ACEC is designated to protect, including biological and cultural resources (**Appendix F**), which is in line with the first provision of 40 CFR 1508.20 as described above. In accordance with the DRECP, the Project must comply with all relevant CMAs for ACECs as provided in **Appendix B** and **Appendix F**. With the implementation of the PDF to avoid the protected resources of the Picacho ACEC (**Appendix F**) and commitment to the CMAs (**Appendix B** and **Appendix F**), impacts to the Picacho ACEC from the Proposed Action are anticipated to be negligible, short-term, and localized. Furthermore, all surface disturbance would be reclaimed concurrently with exploratory drilling activities, and monitoring for the success of reclamation of those areas would be completed within five years of Project implementation. The only exception is the temporary portal access road for access to Drill Area 1, the staging area, and underground activities at the Oro Cruz Mine Portal within Drill Area 1, which would be reclaimed within five years from Project implementation once monitoring and underground activities are completed. Potential impacts to cultural resources and to Native American religious concerns and traditional values are discussed in further detail in **Section 3.8** and **3.14**, respectively.

3.5.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved; therefore, impacts to the Picacho ACEC are not anticipated.

3.6 Climate Change, including Greenhouse Gas Emissions

3.6.1 Initial Study Determination (CEQA)

Table 3-9 provides the impact determinations for GHG emissions.

Table 3-9 Greenhouse Gas Emissions Environmental Checklist

Greenhouse Gas Emissions Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.6.2 Affected Environment

The area of analysis for climate change, including GHG emissions, is the Project Area and the proposed disturbance footprint, which includes the proposed Drill Areas and access roads (**Figure 3-1**). Climate change is defined by the Intergovernmental Panel on Climate Change (IPCC) as a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean or the variability of its properties and that persist for an extended period, typically decades or longer. It refers to any change in the climate over time, whether due to natural variability or as a result of human activity (IPCC 2013).

Ongoing scientific research has identified anthropogenic GHG emissions as potential impacts to the global climate. GHGs occur naturally as well as through man-made processes. Through complex interactions on a global scale, GHG emissions lead to a net warming of the atmosphere. GHGs have been found to be capable of trapping heat in the atmosphere by decreasing the amount of heat radiated by the Earth out to space. GHG emissions are comprised of many separate chemicals, but the most notable is carbon dioxide (CO₂). Industrialization and the burning of fossil fuels have increased the levels of CO₂ in the atmosphere over the past century. The EPA has formed a correlation of the various gasses with CO₂ so that any particular GHG can be shown as a carbon dioxide equivalent (CO₂e). This methodology allows gaseous emissions to be reduced to the CO₂e and compared with area wide GHG emissions on a local, state-wide, country-wide, or global level.

The EPA estimated the national GHG emissions in 2019 (the most recent year for which national and state of California data has been tabulated) were 6,571.74 million metric tons of CO₂e. As provided above in **Section 3.3.2**, the EPA Significant Emission Rate for GHG CO₂e is 75,000 tons per year. The EPA categorized the major economic sectors contributing to US emissions of GHGs in 2020 as follows (EPA 2022):

- Electric power generation (25.1 percent)
- Transportation (28.5 percent)
- Industry (23.1 percent)
- Agriculture (10.1 percent)
- Commercial, residential sources and U.S. Territories (13.2 percent)

CARB estimated California's statewide GHG emissions in 2019 (the most recent year for which data has been tabulated) at 418.2 million metric tons of CO₂e. The major economic sectors contributing to California's emissions of GHGs in 2019 were as follows (CARB 2022b):

- Electric power generation (14 percent)

- Transportation (41 percent)
- Industry (24 percent)
- Agriculture (7 percent)
- Commercial, residential sources (14 percent)

Sources of GHG emissions in the vicinity of the Project Area include vehicles (including OHVs) traveling to, from, and within the area of analysis, and construction and operation for mineral and energy development. GHG emissions are likely to increase as these activities increase. Warmer and more arid conditions coupled with seasonal variability in precipitation events have led to limited water supplies and severe droughts in several parts of California. Models show significant increases in maximum monthly temperatures, with the Sonoran Desert Ecoregion expected to undergo general warming with a greater than 35°F increase by 2060 in some areas, with greater increases in temperature projected to occur during the winter months. Potential effects of these forecasts on the landscape could include increased frequency and duration of droughts, expansion of invasive species that lead to increased risk of wildfire, increased wind erosion, changes in vegetation communities as forage and habitat for wildlife, and changes in wildfire regimes (Strittholt et al. 2012). Current climate conditions in the state of California have increased over the last decade, including rising temperatures and decreasing precipitation leading to more frequent wildfires and increased drought. Eight of the ten warmest years on record for California occurred between 2012 and 2022 (OEHHA 2022). California GHG emissions peaked in 2004 but have been on a downward trend since and have remained below California’s GHG emissions reduction goal since 2016 (OEHHA 2022).

3.6.3 Environmental Impacts (NEPA) – Proposed Action

Climate change is a far-reaching and long-term issue that has and would continue to impact the area of analysis, its resources, and management beyond the timeframe of the Proposed Action. Although many effects of climate change are considered known or likely to occur, specific impacts to the area of analysis cannot be determined exactly with the current level of understanding. Climate change is inherently a cumulative effect from numerous contributing factors (i.e., increased in GHG concentrations and various land uses) and can typically be seen by review of reported trends of regional climatology. No single project is large enough to impact climate change; therefore, the discussion herein considers cumulative environmental impacts. Much depends on the rate at which temperatures continue to rise and whether global emissions of GHGs can be mitigated before serious ecological thresholds are reached. California GHG emissions peaked in 2004 but have been on a downward trend since and have remained below California’s GHG emissions reduction goal since 2016 (OEHHA 2022). As discussed above in **Section 3.3.3**, GHG emissions from the Proposed Action would occur any time the internal combustion engines on Project vehicles are operating and as a result of vehicular travel to and from the Project Area each day by Project personnel. An emissions inventory was compiled using US EPA-Air Pollution 42 emission factors (**Appendix E**). Based on the anticipated emissions from vehicles, generators, drilling equipment, and helicopters for temporary road and drill site construction, exploratory drilling, and laydown yard activities, the Proposed Action would result in maximum yearly predicted GHG emissions of 3,021 metric tons. The anticipated Project emissions are below the EPA Significant Emission Rate for GHG CO₂e emissions of 75,000 tons per year, as identified above in **Section 3.3.3**. The 3,021 metric tons of predicted GHG emissions from the Proposed Action would be equivalent to GHG emissions from 672 passenger vehicles driven for one year or energy use for 381 homes for a year. The estimated 3,021 metric tons of GHG emissions is also equivalent to the GHG emissions avoided and/or offset by 0.84 wind turbines running for one year (EPA 2023b). Anticipated annual Project and daily operational GHG CO₂e emissions under the Proposed Action would be below both the EPA significant emissions (75,000 tons per year) and the SCAQMD emissions thresholds (10,000 metric tons per year for industrial projects, described further in **Section 3.6.5** below). Due to the low emission rates from the Proposed Action, climate change influences are not likely to be affected. Additionally, climate change would not impact the Proposed Action as equipment availability, timing (one to two years for active drilling plus three years for reclamation and monitoring), drilling locations, temporary access road construction requirements, and exploration capacity

would not be impacted by factors of climate change influences such as increased temperatures and decreased precipitation. Potential impacts resulting from GHG emissions associated with the Proposed Action are expected to be negligible as CO_{2e} emissions would not exceed the regulatory thresholds described above and are not large enough to change the observed course of climate change in any detectible way; overall, impacts would be short term, and localized.

3.6.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved and therefore, related impacts to climate change and GHGs would not occur. Potential impacts within the area would continue to occur under existing conditions.

3.6.5 Impact Analysis (CEQA)

In response to climate change, California implemented Assembly Bill (AB) 32, the “California Global Warming Solutions Act of 2006.” AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill (SB) 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (accelerated the Renewables Portfolio Standard to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally appropriate quantitative thresholds consistent with a statewide per capita goal of 6.0 metric tons (MT) of CO_{2e} by 2030 and 2.0 MT of CO_{2e} by 2050 (CARB 2017).

Most recently, CARB adopted an updated to the Scoping Plan in 2022, which evaluated four development scenarios for California, and their potential for reducing GHGs. The summary below provides an overview of the alternatives designed and considered for the energy and industrial sectors in this update. Full details of each scenario considered can be found in the Draft 2022 Scoping Plan Update (CARB 2022)

- Scoping Plan Scenario (modeling scenario Alternative 3 from the Draft): carbon neutrality by 2045, deploy a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and align with statutes, Executive Orders, Board direction, and direction from the governor.
- Alternative 1: carbon neutrality by 2035, nearly complete phaseout of all combustion, limited reliance on carbon capture and sequestration and engineered carbon removal, and restricted applications for biomass-derived fuels.
- Alternative 2: carbon neutrality by 2035 and aggressive deployment of a full suite of technology and energy options, including engineered carbon removal.
- Alternative 4: carbon neutrality by 2045, deployment of a broad portfolio of existing and emerging fossil fuel alternatives, slower deployment and adoption rates than the Scoping Plan Scenario, and a higher reliance on CO₂ removal.

The Imperial County Regional Climate Action Plan (ICTC 2021), published by the Imperial County Transportation Commission in 2021, is the County’s long-range plan that outlines specific strategies for how the region would work towards reducing GHG emissions in accordance with statewide targets set by CARB. The proposed Project’s consistency with the Regional Climate Action Plan is discussed below under CEQA Criteria b).

- a) *Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less Than Significant Impact: No, the proposed Project would not directly or indirectly generate GHG emissions that may have a direct or indirect significant impact on the environment. As discussed in **Section 3.3** and **Section 3.9**, Project GHG emissions would primarily result from fuel consumption. Note the Project would not consume electricity, which is an indirect source of GHG’s as a result of power generation.

Based upon the proposed Project activities (vehicles, mobile equipment, drill rig operations, etc.), The Project’s annual GHG emissions were quantified as provided in **Section 3.3.3**. Neither the County nor the ICAPCD have published GHG thresholds that can be utilized for Project-specific CEQA significance determination; therefore, the screening thresholds published by the South Coast Air Quality Management District (SCAQMD) were used to evaluate potential significance of the Project’s GHG impacts. In December of 2008, the SCAQMD Governing Board adopted an interim GHG significance threshold for projects where the SCAQMD is a CEQA lead agency. This interim established a threshold for 10,000 MT of CO₂e emissions per year for industrial projects. SCAQMD has also proposed a screening-level threshold of 3,000 MT CO₂e per year for commercial and residential projects. As shown in **Table 3-10**, Project GHG emissions are well below the applicable SCAQMD GHG screening threshold for industrial projects.

Table 3-10 Estimated Project Greenhouse Gas Emissions

Parameters	CO ₂ e (MT per year)
Project Emissions	3,021
SCAQMD Screening Threshold (commercial/residential projects)	3,000
SCAQMD Screening Threshold (industrial projects)	10,000
Exceeds Screening Threshold(s)?	No

Note: see **Appendix E** for summary of predicted air emissions.

Note that GHG emissions were quantified for the Project for disclosure purposes. As discussed above, climate change is a cumulative effect, and no single project is large enough to impact climate change. Further, although the Project is estimated to generate up to approximately 3,021 metric tons of GHGs per year from combustion of gasoline/diesel fuels, these fuels are regulated near the top of the supply chain. As such, each citizen of California (including SMP as the proponent of the Project) has and would continue to necessarily purchase fuels produced in a way that is acceptable to the California market. Therefore, the estimated Project GHG emissions are consistent with the AB 32 Scoping Plan, and the Project would meet its fair share of the cost to mitigate the cumulative impacts of global climate change. This concept is reflected in both the 2017 and subsequent 2022 Scoping Plans, which regulates fuels at a level in the supply chain above the Project, such that the Project has no choice but to use fuel energy in California that is already regulated. The Project therefore does not have its own GHG emissions but is simply a location in which GHG emissions are taking place as a result of fuel that is already regulated.

For the reasons discussed above, the Project would not generate additional GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and there would be less than significant impacts.

- b) *Would the Project conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Less Than Significant Impact: As discussed under CEQA Criteria a) above, the Project would not significantly increase GHG emissions, and Project GHG emissions are not expected to be cumulatively considerable. Nonetheless, the Regional Climate Action Plan (ICTC 2021) was reviewed to determine the Project’s consistency with specific goals meant to reduce GHG emissions. Specifically, Section 4.1 of the Regional Climate Action Plan describes specific measures that apply to GHG emissions from all sectors which the County should implement to “close the gap” between the Legislatively-Adjusted Business As Usual (BAU) emissions forecast and the 2030 and 2050 emissions reduction targets published by CARB. The County-wide GHG reduction measures were reviewed, and the Project would not conflict with any specific measure, program, or policy published within the Regional Climate Action Plan. For these reasons, the Project is considered consistent with the County’s Regional Climate Action Plan and would not prevent the County from achieving their GHG reduction goals.

As stated under CEQA Criteria a) above, it is generally recognized that consumers of electricity and transportation fuels, such as SMP, are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other statewide programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each such sector-wide program exists within the framework of AB 32 and its descendant laws, the purposes of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan. Therefore, while the Project would generate short-term (i.e., over 12- to 24-months) GHG emissions due to combustion of transportation fuels, the GHG emissions associated with the Project’s fuel consumption would be regulated near the top of the supply-chain as transportation fuel suppliers and importers are required to report emissions under the Cap-and-Trade, which is designed to reduce GHG emissions as needed to achieve emissions reductions, described in related planning documents, primarily the AB 32 Scoping Plan. As such, each citizen of California (including SMP) would have no choice but to purchase fuels produced in a way that is acceptable to the California market. Thus, in addition to the Regional Climate Action Plan, the Project would also be consistent with the relevant state-wide GHG reduction plan (i.e., AB 32 Scoping Plan). The Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change because SMP is purchasing energy from the California market.

For the reasons summarized above, the Project would not conflict with any applicable plans, policies or regulations for the purpose of reducing GHG emissions. Implementation of the Project would not impede the County from meeting its’ GHG emissions reduction goals, including those outlined in the Imperial County Regional Climate Action Plan (ICTC 2021). Therefore, there would be less than significant impacts.

3.7 *Conservation Lands*

3.7.1 **Initial Study Determination (CEQA)**

Conservation lands is not a resource category analyzed in the IS under CEQA, therefore, no determinations or environmental impacts are provided for a CEQA impact analysis herein.

3.7.2 **Affected Environment**

The area of analysis for conservation lands is the Project Area. The area of analysis falls within the CDCA, designated as California Desert National Conservation Lands, which encompasses 25 million-acres of land in southern California and makes up 624.2 acres of land (99 percent) within the area of analysis (**Figure 1-1**). The BLM administers about 10 million acres of the CDCA. Within the CDCA, the DRECP was developed as a collaboration between the California Energy Commission, CDFW, BLM, and the USFWS. The DRECP LUPA (BLM 2016), which amended the CDCA Plan, was intended to facilitate the development of utility-scale renewable energy and transmission projects in the Mojave and Colorado deserts in California to reach federal and social resources; however, the DRECP LUPA is applicable across all of the lands under the jurisdiction of the BLM California Desert District Office.

CDCA lands have been identified as having national significant ecological, cultural, and scientific values and are managed to conserve, protect, and restore these values per the Omnibus Public Land Management Act of 2009 (Public Law 111-11). The primary biological resources goals of the DRECP LUPA are landscape and habitat connectivity, ecosystem and ecological function, and species conservation. The area of analysis lies within the Lake Cahuilla ecoregion of the CDCA and makes up less than 0.01 percent of the total 25 million acres of the CDCA (BLM 2016).

3.7.3 Environmental Impacts (NEPA) – Proposed Action

The Proposed Action would result in 20.54 acres of surface disturbance, all anticipated to occur within the CDCA and specifically the Picacho ACEC National Conservation Lands. The Project would not be located within a High Potential Mineral Area. All areas of surface disturbance resulting from Project-related activities would be reclaimed concurrently throughout the life of the surface exploration Project, except for the proposed new 1.8-mile main access road to the underground portal within Drill Area 1 (**Figure 2-1**). The proposed new main access road would be reclaimed following SMP’s completion of underground exploration activities, The remaining surface disturbance reclaimed within five years from Project implementation. Per the requirements designated by the DRECP LUPA (BLM 2016), the following CMAs for National Conservation Lands would be required for implementation under the Proposed Action: NLCS-CUL-1, NLCS-MIN-2, and NLCS-NSHT-12. These CMAs are described in full under **Appendix F**. Impacts to National Conservation Lands from the Proposed Action are anticipated to be negligible, short-term, and localized.

3.7.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved and associated impacts to conservation lands are not anticipated; however, potential impacts within the area could occur under existing conditions as the area would still be available for use by the general public.

3.8 Cultural Resources

3.8.1 Initial Study Determination (CEQA)

Table 3-11 provides the impact determinations for cultural resources.

Table 3-11 Cultural Resources Environmental Checklist

Cultural Resources Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.8.2 Affected Environment

The area of analysis for cultural resources is also referred to as the area of potential effects (APE). For the proposed Project, there is a Physical APE and a Visual, Auditory, and Atmospheric (VAA) APE, which represents the Visual APE and the Auditory APE (**Figure 3-2**).

The Physical APE encompasses the Project Area and includes all areas of potential ground disturbing activity which could result in the potential impacts to cultural resources, and in particular archaeological sites. The APE encompasses an area sufficient to accommodate all of the Project components under consideration (i.e., access roads, fencing, drill pads, helicopter landing pads, and staging areas). The Physical APE encompasses approximately 279 acres, including the seven proposed drill areas and new and improved access roads proposed under the Project.

The VAA APE combines two separate areas for potential visual and auditory impacts. The Visual APE was delineated by conducting a viewshed analysis in the vicinity of the Project Area and the Auditory APE was delineated by conducting noise modeling of the proposed Project activities to determine the extents to which historic properties may be affected by the sounds and sights of the proposed drilling and exploratory activities (Daniels et al. 2022). The purpose of the VAA APE is to assist in the identification of sites or locations potentially deemed sacred or traditionally important by Native American Tribes that may be adversely affected by visual obstructions and loud noise levels such that the integrity of the setting and feeling of the sites is disturbed; even if only temporarily. To address potential impacts and delineate the Visual APE, a viewshed analysis was conducted in ArcGIS using seven points each at the centroid of the Project’s seven proposed drill areas and a height of 40 feet, the tallest height of the proposed drilling equipment (Stantec 2022a). The extent of potential auditory effects and delineation of the Indirect Auditory APE was conducted by creating noise contours in a noise modeling software (SoundPlan) to detail the furthest distance in miles where potential Project noise would attenuate to an imperceptible level with a maximum of two drill rigs running at once, per the proposed Project activities. The extent of the Auditory APE incorporates the furthest noise contour where noise would attenuate to a nearly inaudible level to the human ear; approximately 1.7 miles to the west of the Project Area (Stantec 2022b).

Cultural Resource Sites

A Project-specific Class III cultural resource inventory was conducted for the Project Area (Daniels et al. 2022), in accordance with Section 106 of the NHPA. The Class III inventory included a records search at the South Coastal Information Center (SCIC), an intensive pedestrian survey within the Physical APE, and a desktop assessment of effects to cultural resources within the VAA APE. A total of 75 cultural resources were identified within 1 mile of the Physical APE, 12 of which intersect the Physical APE. The Class III survey re-identified the 12 previously recorded sites and documented one newly recorded site (CA-IMP-13336) within or intersecting the Physical APE (**Table 3-12**).

Table 3-12 Cultural Resource Sites in the Physical APE

Site number	Site Type	National Register of Historic Places Evaluation
Previously Recorded Sites		
CA-IMP-1469	Prehistoric Trail	Unevaluated
CA-IMP-3297/3300H/3302	Hedges/Tumco Historic Townsite	Eligible (Criteria A, C, and D)
CA-IMP-3298	Historic cemetery	Unevaluated
CA-IMP-7915	Transmission line	Unevaluated
CA-IMP-11343H	Golden Queen Mine	Not Eligible

Site number	Site Type	National Register of Historic Places Evaluation
CA-IMP-11344H	Crown Mine	Not Eligible
P-13-015600	Mine	Unevaluated
P-13-015601	Mine	Unevaluated
P-13-015602	Mine	Unevaluated
P-13-015656	Mine	Unevaluated
P-13-015841	Mine	Unevaluated
Newly Recorded Sites		
CA-IMP-13336	Prehistoric Ceramic Scatter	Unevaluated
P-13-018460	Mine Related -Tailings	Unevaluated
P-13-018461	Mine Related – Adit 4	Unevaluated
P-13-018462	Mine Related – Adit 7	Unevaluated
P-13-018463	Mine Related – Prospect Pit 1	Unevaluated
P-13-018464	Mine Related – Prospect Pit 2	Unevaluated
P-13-018465	Mine Related – Prospect Pit 13	Unevaluated

Source: Daniels et al. 2022

CA-SDI-3297/3300/3302 are historic archaeological sites recorded in association with the historic mining town of Hedges, later known as Tumco. These sites have been evaluated and found eligible for listing on the National Register of Historic Places (NRHP) under Criteria A, C, and D. These NRHP properties would be avoided through Project design, redesign, or relocation of facilities.

Within the Physical APE, 29 other mining features were identified outside previously defined site boundaries, including seven adits, 16 prospects, one mine shaft, three rock cairns, a tent pad, and a wooden cross. The ages of all but six of these features are unknown. The six features are visible on aerial imagery or topographic quadrangles from the 1960s. The six historic mine features were recorded as archaeological sites and given the numbers P-13-018460, P-13-018461, P-13-018462, P-13-018463, P-13-018464, and P-13-018465. These sites have not been formally evaluated for listing on the NRHP.

Within the VAA APE, 25 cultural prehistoric resources were identified that may be in continued use by Native American individuals, such as trails, geoglyphs, and rock art sites. Some of the trail segments identified have been interpreted as historic trails associated with the previous mining activity in the area, but their use by Native Americans both in prehistoric and historic times cannot be ruled out; therefore, all identified trail sites were included in the VAA APE assessment. A Traditional Cultural Property (TCP) has also been identified to extend beyond the VAA APE; however, the full extent of the TCP has not been physically delineated.

Section 106 of the NHPA consultation with California State Historic Preservation Officer (SHPO) on the project, cultural resource inventory APE, and the inventory work plan was initiated April 16, 2021 and August 10, 2021 respectfully.

3.8.3 Environmental Impacts (NEPA) – Proposed Action

Potential impacts to cultural resources include the following: impacts to historic properties and the TCP from exploration activities; discovery of inadvertent finds during exploration activities; and discovery of human remains during exploration activities.

Of the 279-acre Physical APE, 20.54 acres of BLM-administered land would be disturbed under the Proposed Action. Direct impacts to NRHP-eligible historic properties, including surface or subsurface disturbance incurred during exploration activities could occur within the Project Area. These potential impacts could occur during the construction of access routes, staging areas, helicopter pads, drill pads, and/or exploration operations. Any inadvertent cultural resources discovered within a 100-meter area during construction, operations, and/or reclamation would require SMP to cease all work immediately and notify the BLM Authorized Officer. The BLM Authorized Officer would then evaluate the discovery in coordination with other consulting parties to determine and implement appropriate treatment, if necessary. A Monitoring and Discovery Plan will outline the process for addressing inadvertent discoveries, which will be consulted on before BLM approval.

Direct impacts to known historic properties or unevaluated resources would be avoided through Project design, redesign, or relocation of facilities where feasible.

Neither of the two prehistoric sites nor the larger TCP identified within the Physical APE have been evaluated for listing in the NRHP and would be avoided. Precautionary Environmentally Sensitive Area fencing would be placed along the access road bordering CA-IMP-1469 to prevent inadvertent impacts. Additional Environmentally Sensitive Area fencing may be added in other locations at the request of the contracted archaeological firm in consultation with the BLM. The BLM would also require an additional mitigation measure, to conduct periodic archaeological monitoring (checking fencing, access routes, and drill pad locations) by a contracted archaeological firm. With avoidance measures in place per the PDFs (**Appendix F**), the resources would be avoided and no adverse impacts would occur.

All of the historic period sites except CA-SDI-3297/3300/3302 have yet to be formally evaluated. Based on the results of the Class III inventory, these sites likely lack integrity and research potential (Criterion D), are not associated with important historical events (Criterion A) or individuals (Criterion B), and do not represent distinctive examples of structural types or works of master craftsmen (Criterion C) (Daniels et al. 2022). However, SMP has committed to avoidance of all sites.

Visual or noise effects could occur during the construction and operation of the exploration operations within the VAA APE. Effects would be temporary and may include visual obstructions and loud noise levels which could affect the integrity of setting or feeling of locations deemed sacred or traditionally important by Native Americans, such as the TCP. As noted above, all known archaeological sites that make up a part of the TCP within the VAA APE would be physically avoided and no adverse impacts would occur. Assessment of the Visual APE identified 18 potential sites that may be visually affected; however, views of the Project would not likely create adverse effects to historic properties and any visual impacts at identified sites would be temporary. Assessment of the Auditory APE and review of the noise modeling (described further under **Section 3.15**) identified that noise levels would be similar to those for a suburban residential area at night, a level that would not likely cause adverse effects to significant Native American resources, and any noise level increases at identified sites would be temporary and intermittent throughout the life of the Project. Impacts to cultural resources within the VAA APE under the Proposed Action and with the BLM required mitigation measures would be negligible, short-term, and localized.

BLM-required mitigation measures include the following:

- A cultural monitoring and inadvertent discovery plan will be prepared in consultation with the BLM ECFO archaeologist, Native American Tribes, and CA SHPO and implemented prior to conducting

fieldwork. Any inadvertent cultural resources discovered during construction, operations, and/or reclamation would require SMP to cease all work immediately and notify the BLM Authorized Officer. The BLM Authorized Officer would then evaluate the discovery in coordination with other consulting parties to determine and implement appropriate treatment, if necessary.

- All known culturally sensitive areas within 100 feet of ground disturbing activities and access roads will be safeguarded with periodic archaeological monitoring and barrier fencing, in consultation with the BLM ECFO archaeologist,
- Periodic archaeological monitoring (checking fencing, access routes, and drill pad locations, etc.) will be conducted by SMP's archaeological contractor (at least once every 2 weeks during drilling activities) in consultation with BLM ECFO archaeologist. Participation in the monitoring effort by Tribes will be recommended.

Section 106 consultation with the SHPO was initiated for the BLM's cultural resources findings and determinations on May 19, 2023. The 30-day consultation period with SHPO was completed June 20, 2023. The BLM received a letter response on June 28, 2023 stating there were no objections to the No Adverse Effect to Historic Properties determination.

3.8.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be authorized and associated surface disturbances and indirect auditory and visual effects would not occur. There would be no impacts to the identified historic properties.

3.8.5 Impact Analysis (CEQA)

- a) *Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

Less Than Significant Impact with Mitigation: Potential impacts to cultural resources include the following: direct impacts to historic properties from exploration activities; discovery of unanticipated finds during exploration activities; and discovery of human remains during exploration activities. Of the 279-acre Physical APE evaluated, 20.54 acres would be physically disturbed by the Project. Additionally, the Project site is entirely within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. As such, the potential to impact historic resources is considered low.

Additionally, direct physical impacts to historic properties would be avoided through project design, redesign, or relocation of facilities where feasible. When avoidance is not feasible an appropriate treatment plan would be designed, in consultation with the State Historic Preservation Officer (SHPO) and California Office of Historic Preservation, to lessen or mitigate project-related effects to historic properties.

All of the historic period sites except CA-SDI-3297/3300/3302 (see **Table 3-12** above) have yet to be formally evaluated. Based on the results of the Class III inventory, these sites likely lack integrity and research potential (Criterion D), are not associated with important historical events (Criterion A) or individuals (Criterion B), and do not represent distinctive examples of structural types or works of master craftsmen (Criterion C) (Daniels et al. 2022). Nonetheless, the Project has been designed to avoid of all these sites.

As stated above, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). To ensure the Project's potential adverse impacts to cultural resources are avoided, the PDFs, CMAs, and additional mitigation measures as described above under **Section 3.8.3** and included in **Appendix F** would be required by the BLM and

Imperial County. These measures would be implemented throughout exploratory drilling construction and operation and reclamation activities.

Through the implementation of the avoidance and protection measure summarized in **Section 3.8.3** above, the Project would not have an adverse effect on those historic resources not yet formally evaluated. Therefore, Project impacts would be less than significant with mitigation incorporated.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant Impact with Mitigation: See response to CEQA Criteria a) above. As stated above, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Additionally, the Project site is within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. As such, the potential to impact archeological resources is considered low.

Additionally, neither of the two prehistoric sites identified within the Physical APE (see **Table 3-12** above) have been evaluated for listing in the NRHP and would be avoided. Specifically, to ensure the Project's potential adverse impacts to archeological resources are avoided, the following protection measure shall be implemented. The PDFs, CMAs, and additional mitigation measures as described above under **Section 3.8.3** and included in **Appendix F** would be required by the BLM and Imperial County. These measures would be implemented throughout exploratory drilling construction and operation and reclamation activities. With such avoidance measures in place, both of the prehistoric sites would be avoided, and no adverse impacts would occur. Therefore, through the implementation of the avoidance and protection measure summarized above, the Project would not have an adverse effect on archaeological resources, and Project impacts would be less than significant with mitigation incorporated.

c) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact with Mitigation: See response to CEQA Criteria a) and b) above. As stated above, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Additionally, the Project site is within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. As such, the potential to encounter undiscovered human remains is considered low.

Nonetheless, all ground-disturbing activities have the potential to unearth archaeological sites or human remains. Therefore, to ensure the Project would avoid inadvertent impacts to undiscovered human remains, including those interred outside of dedicated cemeteries, the following avoidance and protection measures would be implemented as described within the PDFs, CMAs, and additional mitigation measures under **Section 3.8.3** and included in **Appendix F**.

With the specified avoidance measures in place, there would be less than significant impacts to undiscovered human remains as a result of the Project. Additionally, a Monitoring and Discovery Plan would be developed for approval by BLM and would address concerns on handling of post-review discovery of cultural resources. Therefore, through the implementation of the avoidance and protection measure summarized above, the Project would not have an adverse effect on undiscovered human remains resources, and Project impacts would be less than significant with mitigation incorporated.

3.9 Energy

3.9.1 Initial Study Determination (CEQA)

Table 3-13 provides the determination of Project impacts to energy.

Table 3-13 Energy Environmental Checklist

Energy Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.2 Affected Environment

This resource is not a supplemental authority considered for analysis by the BLM under NEPA; therefore, it is not included for further analysis in this section other than pursuant to the CEQA IS requirements.

3.9.3 Impact Analysis (CEQA)

- a) *Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Less Than Significant Impact: No, the proposed Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. As discussed in **Section 3.3**, the primary sources of energy consumed as a result of the Project would be fuel (diesel and gasoline) due to onsite equipment activity (off-road equipment, drill rigs, helicopters, etc.) and on-road vehicular traffic (employee/contractor vehicles, delivery trucks) traveling to and from the Project Area.

Fuel energy would be stored onsite within the 1,300-gallon diesel fuel tank, as well as within a 300-gallon jet fuel tank installed at the Oro Cruz Mine Portal staging area. The Project would receive and unload fuel to these onsite storage tanks, and equipment and vehicle (including helicopter) refueling would occur at the designated fueling station within the Oro Cruz Mine Portal. As summarized in **Appendix E**, the total fuel energy consumed was estimated as a result of Project operations based on the proposed equipment and vehicle activity levels. In total, it was estimated that approximately 36,138 gallons of diesel fuel and approximately 1,500 gallons of JetB fuel would be consumed throughout the life of the Project.

The Petroleum Industry Information Reporting Act (PIIRA) requires all retail transportation fueling stations in California to file a Retail Fuel Outlet Annual Report (CEC-A15) with the California Energy Commission (CEC). These stations report retail sales of gasoline, diesel, and other transportation fuels. Compared to the CEC's most recent Retail Fuel Outlet Annual Reporting (CEC-A15) Results, which shows that approximately 24.3 million gallons of fuel was sold in Imperial County during the most recent 2020 reporting year, the Project's estimated increase in fuel consumption would constitute a nominal approximate 0.002 percent increases in total annual fuel energy consumption within the County during the life of the Project (CEC, 2022). It is also important to note that Project fuel consumption would be

temporary (occurring over a 12- to 24-month period) and would cease once reclamation of the Project Area is complete.

There are no unusual characteristics or processes involved during Project construction or operations that would require the use of equipment or vehicles that would be more energy intensive than would be used for comparable activities or require the use of equipment that would not conform to current emissions standards and related fuel efficiencies. Additionally, as with all industrial operations in California, equipment and vehicles used by Project employees and contractors would be subject to stringent federal and state fuel efficiency standards, which would minimize the potential for inefficient fuel usage. Specifically, the Project would be required to comply with the provisions of 13 California Code of Regulations (CCR) Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes. Heavy equipment would also be subject to the EPA Construction Equipment Fuel Efficiency Standard (40 CFR Parts 1039, 1065, and 1068) and CARB's AB 1493 (i.e., Pavley) regulations, which would also minimize inefficient fuel consumption and ensure that the fuel efficiency of equipment and vehicles operating on- and off-site would continue to improve over time. In the interest of cost efficiency and in accordance with federal and state requirements, onsite employees and contractors would not utilize fuel in a manner that is wasteful or unnecessary during Project construction and operation phases.

For the reasons outlined above, the proposed Project would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant with no mitigation required.

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact: No, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As discussed in **Section 3.6**, the County's Regional Climate Action Plan (ICTC, 2021) contains various goals and policies meant to promote reductions in GHG emissions within the County, and many of the goals and policies center around reducing electricity and fuel consumption. As discussed in **Section 3.6**, the County-wide GHG reduction measures were reviewed, including those pertaining to energy conservation, and the Project would not conflict with any specific measure, program, or policy published within the Regional Climate Action Plan.

The County has also adopted generalized policies found within the Imperial County General Plan (Imperial County 2015), specifically within the Renewable Energy and Transmission Element, that support energy efficiency and/or sustainability that would apply to the Project. Applicable provisions were reviewed, and the Project would not conflict with any of the goals and policies, or related regulations adopted as part of the Imperial County General Plan – Renewable Energy and Transmission Element (Imperial County 2015).

As discussed under CEQA Criteria a) above, the Project's mobile equipment and vehicles would also comply with federal, state, and regional requirements where applicable. Specifically, the EPA and the National Highway Traffic Safety Administration (NHTSA) have adopted fuel efficiency standards for medium- and heavy-duty trucks which apply to truck fleet operators, such as the Project proponent. CARB has also adopted cleaner technology and fuel standards pursuant to AB 1493. While Phase 1 and Phase 2 regulation published by both the EPA/NHTSA and CARB primarily apply to manufacturers of on-road vehicles and not the end user, it is assumed the Project operator and any contractors would ensure engines operating onsite are certified in accordance with the appropriate state and federal regulations. This would ensure that efficiency of mobile equipment and vehicles would continue to improve, as applicable, over the life of the Project, through compliance with increasingly stringent standards adopted by applicable regulatory agencies. The energy modeling for trucks does not take into account specific fuel reductions from these regulations, as they would apply to fleets as they incorporate newer trucks meeting the regulatory

standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time if/when older trucks are replaced with newer models that meet the standards.

The State of California's Energy Efficiency Strategic Plan (CPUC 2011) outlines specific goals and strategies to help promote energy efficiency in California's industrial sector in three (3) areas: 1) Support industry adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals; 2) Build market value of and demand for energy efficiency; and 3) Provide technical and public policy guidance for resource efficiency. The Energy Efficiency Strategic Plan promotes reductions in energy consumption through compliance with GHG emission reductions, water conservation, and proper waste disposal. As applicable, the Project would utilize the best available equipment to improve diesel fuel efficiency, and equipment that uses energy would implement modern design and technology to maximize efficiency improvements.

Lastly, as discussed in **Section 3.16**, the Project is expected to have a de minimis effect on local population growth (i.e., exploratory operations over the 12- to 24-month Project life would not require a large number of new onsite employees), and the 2020 Strategic Plan contains no additional control measures with which the Project may conflict. As discussed above, the Project would continue implementing existing rules and conform with fleet turnover as applicable, further reducing the Project's fuel energy consumption over time.

For the reasons outlined above, the Project would not conflict with or obstruct any statewide, regional or local energy efficiency plans. As discussed under CEQA Criteria a) above, the Project would not significantly increase fuel energy consumption, and Project fuel consumption would be temporary and short-term in nature. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

3.10 Environmental Justice

3.10.1 Initial Study Determination (CEQA)

Environmental justice is not a resource category analyzed in the IS under CEQA, therefore, no determinations or environmental impacts are provided for a CEQA impact analysis herein.

3.10.2 Affected Environment

In 1994, EO 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations was issued by President William J. Clinton. The purpose of EO 12898 is to focus on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The EO also directs each agency to develop a strategy for implementing environmental justice and is intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation (EPA 2018). In 2021, the EO was amended under EO 14008 to secure environmental justice under consideration for tackling impacts from climate change, and spur economic opportunity for disadvantaged communities that have historically been marginalized or overburdened by pollution and underinvestment in infrastructure, housing, and healthcare (Federal Register 2021). Further, in 2022, BLM Instruction Memorandum IM 2022-059 was released to provide additional guidance on environmental justice implementation for NEPA analysis in compliance with these regulations and guidelines.

Evaluating the potential environmental justice effects of projects requires specific identification of minority populations when either: (1) a minority population exceeds 50 percent of the population of the affected

area; or (2) a minority population represents a meaningfully greater increment of the affected population than of the population of some other appropriate geographic unit as a whole. For the purposes of this analysis, ten or more percentage points above the reference population is considered to be a meaningfully greater increment (Federal Register 1994). A Tribal environmental justice population is considered as being present if there are one or more concentrated populations of American Indians living within one or more of the geographic polygons included in the analysis.

The EPA’s Environmental Justice Screening and Mapping Tool and US Census Bureau data were used to characterize the minority and ethnic composition of the population within the area of analysis (**Table 3-14**). In order to establish a baseline in which to compare the minority and low-income population in the area of analysis, Imperial County, California was used as a reference population for comparison. The area of analysis for environmental justice includes four Census block groups, which includes the Project boundary (**Figure 3-4**), shown in **Table 3-14** below.

Table 3-14 Environmental Justice Indicators Within the Area of Analysis

Area of Analysis	Low-Income	Minority	Tribal
Census Block Group 060250124002 ¹	37%	21%	2.97%
Census Block Group 060259400001 ²	62%	90%	50.37%
Census Block Group 060259400002 ²	54%	94%	60.81%
Census Block Group 060259400003 ²	86%	64%	21.88%
Imperial County, California	24%	89%	1%

Sources: EPA 2021b; Headwaters Economics 2021

¹ This Census Block Group is contained within the larger Census Block Group 0602512400, shown on **Figure 3-4**.

² This Census Block Group is contained within the larger Census Block Group 06025012400, shown on **Figure 3-4**.

The percentage of the population classified as low-income in all four block groups analyzed is either greater than 50 percent or more than 10 percentage points higher than that of Imperial County, California, which serves as the reference population for this analysis; therefore, a low-income environmental justice population is present within the area of analysis.

The percentage of the population identified as belonging to a minority group in Census Block Groups 060259400001, 060259400002, and 060259400003 is greater than 50 percent; therefore, a minority environmental justice population is present within the area of analysis.

There are concentrated populations of Indigenous communities living within Census Block Groups 060259400001, 060259400002, and 060259400003; therefore, an American Indian environmental justice population is present within the area of analysis.

3.10.3 Environmental Impacts (NEPA) – Proposed Action

Low-income, minority, and American Indian environmental justice populations are present within the area of analysis. Each environmental justice population type was found to be present in multiple Census block groups analyzed, based on the criteria outlined above. Implementation of any of the alternatives under consideration is not expected to cause temporary construction impacts to nearby residences and businesses, including increased noise and dust or changes to travel patterns, due to the remote nature of the Project Area. The nearest population to be potentially affected by the Proposed Action is Winterhaven, approximately 20 miles south of the Project Area (**Figure 1-1**). If impacts were to be realized, communities as a whole would be impacted, and it is not anticipated that there would be any disproportionate adverse impacts to environmental justice populations. Therefore, impacts to environmental justice populations would be negligible, short-term, and localized.

An additional provision of the CEQ guidance requires consideration of “impacts that may affect a cultural, historical, or protected resource of value to a Tribe or a minority population, even when the population is not concentrated in the vicinity.” Impacts to Cultural Resources and Native American Religious Concerns and Traditional Values are analyzed in **Sections 3.7** and **3.9**, respectively, and discuss impacts to potential traditional use or historic sites. Ongoing consultation will continue for this Project with all Tribes that have been contacted and/or expressed interest in the Project, including the Fort Yuma Quechan Indian Tribe, which has been the primary Tribe involved in Government-to-Government consultation for the Project to date and coordinated with the BLM to identify the TCP. Overall, impacts from the Proposed Action on environmental justice populations would be negligible as the Proposed Action would not result in a disproportionate effect on a minority population, low-income population, or Tribal population.

3.10.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Proposed Action would not be developed, and the associated impacts to environmental justice would not occur. Impacts to environmental justice populations are not expected under the No Action Alternative except for those potentially occurring under existing conditions.

3.11 Hazards and Hazardous Materials

3.11.1 Initial Study Determination (CEQA)

Table 3-15 provides the determination of Project impacts to hazards and hazardous materials.

Table 3-15 Hazards and Hazardous Materials Environmental Checklist

Hazards and Hazardous Materials Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Hazards and Hazardous Materials Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.2 Affected Environment

No hazardous substances would be used under the Proposed Action; therefore, no hazardous waste would be generated by the Project. With the implementation of PDFs described in **Appendix F** for solid wastes and the commitment to develop a Spill Contingency Plan, impacts would be minimized; therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1** of **Appendix G**.

3.11.3 Impact Analysis (CEQA)

- a) *Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact: No, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. No hazardous substances would be used in the drilling program, and no hazardous wastes would be generated by the Project. There would also be no onsite disposal of hazardous materials. Any non-hazardous trash generated by the contractors would be collected in appropriate containers and removed as required for accordance with applicable laws and regulations. No refuse would be disposed of onsite.

Hazardous substances used during the Project would primarily include fuels and lubricants, which would be stored at the drill sites in accordance with the manufacturers prescribed instructions and applicable regulations. SMP would also have a fuel tank onsite that would contain no more than 1,300 gallons of diesel fuel within the 2.8-acre staging area.

To prevent the spread of any accidental leakage, fuel and lubricants would be stored in shallow lined reservoirs at each drill site, or at the designated/secured fueling station located at the Portal Staging area. Additionally, during drilling operations, the drill rig would be parked on top of plastic sheeting overlain by absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”) to prevent incidental releases to the ground surface. A spill prevention kit would also be stored onsite consisting of an oil-only absorbent mat material (i.e., PIG ® adsorbent mat pad) and absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”).

Prior to commencement of operations, a Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project area. At a minimum, the spill prevention, control and countermeasures included in **Appendix F** would be implemented.

If a spill were to occur, the spill prevention and cleanup measures outlined in the Spill Contingency Plan would be implemented to contain the spill and prevent contamination. Handling and transfer of potentially hazardous materials would also follow BMPs, as well as applicable health and safety regulations and/or local ordinances. SMP would adhere to applicable policies, requirements, and responsibilities for

evaluation, handling, storage, disposal, transport, and source reduction of hazardous materials/wastes, including procedures for containment and cleanup of hazardous materials/waste spills, and updating the appropriate contingency plans. Emergency spill response materials would be readily available to employees. Employees would be appropriately trained in hazardous materials/waste management. Potentially hazardous waste would be properly removed and transported to an approved offsite facility.

For the reasons outlined above, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and there would be less than significant impacts with no mitigation required.

- b) *Would the Project create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less Than Significant Impact: No, the Project would not create a significant hazard to the public through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As detailed under CEQA Criteria a) above, minimal amounts of hazardous materials, primarily fuels, oils and lubricating fluids, would be used and stored onsite; however, these would be stored at the drill sites in accordance with manufacture prescribed instructions and applicable regulations, and with designated/protected storage areas. During drilling operations, the drill rig would be parked on top of plastic sheeting overlain by absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”) to prevent incidental releases to the ground surface. Additionally, a Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project area. Through the implementation site-specific containment and control measures described in **Appendix F**, the potential for an accidental release of significant quantities of hazardous materials that could affect the surrounding environment is low.

Furthermore, although certain hazardous materials (i.e., oils, lubricants, cleaning products) would be managed/stored at the Project site, employees would be trained to properly recognize, contain, and cleanup such releases in accordance with SMP’s cleanup procedures outlined in the Spill Contingency Plan in the unlikely event of an accidental release. For these reasons, accident conditions leading to the release of hazardous materials that could cause a significant hazard to the public or surrounding environment is unlikely, and the Project would have less than significant impacts, with no mitigation required.

- c) *Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact: No, the Project would not emit hazardous emissions, materials, substances, or waste within one-quarter mile of an existing or proposed school. The Project site is located in a remote area of the Tumco mining district in the Cargo Muchacho Mountains and is surrounded by undeveloped open space used for prospecting and recreation. The nearest school is the Rancho Viejo Elementary School, located over 14 miles away from the Project site to the southeast in Yuma, Arizona. Therefore, no Project impacts would occur related to emitting or handling hazardous materials within 0.25 mile of an existing or proposed school.

- d) *Would the Project be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact: No, the Project would not be located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The proposed Project Area is not located within or near a site identified by the Department of Toxic Substances Control (DTSC) or the Secretary of Environmental Protection as being affected by hazardous wastes or clean-up problems. Specifically, the State Water Resources Control Board (2022) GeoTracker and the Department of Toxic Substances Control (2022)

EnviroStor databases were reviewed to determine whether the Project site or surrounding area(s) are listed hazardous material/waste sites or are located near a known contaminated site. Neither the Project site, nor any sites within the nearby vicinity, are on or near hazardous materials sites identified on a list compiled pursuant to Government Code Section 65962.5. Further, as discussed under CEQA Criteria a) and b) above, the proposed Project would not use significant quantities of hazardous material, nor generate hazardous wastes. Therefore, the Project would not create a significant hazard to the public or the environment related to hazardous materials sites, and no impacts would occur.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact: No, the Project is not located within an airport land use plan area or within 2 miles of a public airport or a public use airport, which could result in a safety hazard or excessive noise for people residing or working in the Project Area. The Project would not result in a safety hazard or excessive noise for people residing or working in the Project Area due to proximity to a public airport or public use airport. The Project site is not located within two miles of a public airport or public use airport. The public use airport nearest to the Project Area is the Holtville Airport, a relatively small county-owned airport located over 25 miles away from the Project Area to the west. Therefore, no impacts would occur.

- f) *Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

No Impact: No, the Project would not impair implementation of or physically interfere with an adopted emergency plan or evacuation plan. As discussed above, the Project Area is located approximately 35 minutes northwest of Yuma, Arizona, and is accessed via various paved highways graded roads. Drilling equipment would be trucked to one of two truck unloading points, and then would be mobilized to the drill sites within the Project Area. Equipment would be unloaded from lowboys onto the existing road at the unloading points and no improvements are needed to accommodate the unloading of equipment.

As discussed above, the Project would repurpose existing access roads to the extent possible, however some new access roads would be required across BLM land (**Figure 2-1**). The access routes that would be used are pre-existing BLM-authorized routes. The proposed drill sites and new access roads would be mostly located within previously mined and disturbed areas. Interstate 8 (I-8), Blythe Ogilby Road (State Route 34), and Gold Rock Ranch Road are the primary roads that would be used for access. These access/roadway improvements would help facilitate safe and orderly evacuation of the Project site/surrounding area.

As discussed in **Section 3.16**, SMP's exploration activities would also not significantly increase the number of vehicles on local public roadways. Specifically, the number of onsite workers/contractors at any given operating day during the course of the Project would be minimal (estimated up to 13 onsite employees). Additionally, there are no public facilities or structures in the Project area that would be altered or impacted by the Project. In the unlikely event of an emergency that would require onsite evacuation, existing ingress/egress points and public access roads have sufficient capacity to safely evacuate the onsite employees.

Planning and prevention of fires would also be managed throughout the life of the Project through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training.

Prior to commencement of exploratory operations, SMP would also coordinate with local law enforcement and fire departments to provide 24-hour access as needed for emergency response. Cellular telephone service is generally available within the Project area site for emergency and other communications. A satellite phone would also be made available in case of emergencies. Contractors would be trained in proper

emergency response, incident reporting, and general health and safety issues. All onsite equipment and vehicles would be maintained in a safe and orderly manner.

Lastly, Imperial County's Emergency Operations Plan (EOP) (Imperial County 2016) and Multi-Jurisdictional Hazards Mitigation Plan Update (Imperial County, 2015) were also reviewed. The Project would not conflict with any applicable provisions found in the County's emergency response or hazard mitigation plan(s). See **Section 3.24** for additional detail.

For the reasons outlined above, the Project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan, and no impacts would occur.

- g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less Than Significant Impact: No, the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. The Project site is located within an undeveloped area, previously disturbed by historical mining activities. Based upon the lack of natural vegetation and rocky, hard-packed soils, the Project Area would not be especially prone to wildfires. According to the current Fire Hazard Severity Zone Maps published by the California Department of Forestry and Fire Protection, the Project site is located within a designated "Moderate" Fire Hazard Severity Zone (within a Federal Responsibility Area [FRA]). None of the Project site or adjacent areas are designated as "Very High", "High" Fire Hazard Severity Zone. **Section 3.24** further discusses potential impacts associated with wildfire.

SMP would also implement site-specific fire prevention/protection actions. At a minimum these actions would include designating Project fire coordinators, providing adequate fire suppression equipment (including in vehicles), and establishing emergency response information relevant to the Project Area. As discussed above, SMP would maintain a 2,000-gallon portable water storage tank onsite for dust suppression; however, in the unlikely event of an onsite fire, this water would also be available to assist in firefighting operations. SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits.

In the event of an initial, small fire that does not create enough smoke, flame, and heat to prevent fighting the fire using a hand-held fire extinguisher or a small water hose, and providing no one would be endangered, SMP personnel and/or contractors would use make a reasonable effort to extinguish the fire. If two or more people are present, one would fight the fire while one reports to 911 the size, type, and location in the event the fire grows out of control. Personnel would not directly engage any fire which is beyond the incipient stage (i.e., a fire which has progressed to the point it has substantially involved any structure/equipment).

The Project would not require the use or storage of significant quantities of flammable materials onsite. Management of flammable materials stored onsite would be conducted in accordance with applicable regulations. As stated above, onsite vehicles would contain fire extinguishers, and onsite staff would be trained in fire suppression in accordance with SMP's standard protocols. Additionally, none of the proposed structures would be prone to fires and would not be directly associated with any heat generating devices. SMP would also generally maintain the Project area and kept devoid of vegetation and brush.

For these reasons, the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and impacts would be less than significant.

3.12 Land Use and Planning

3.12.1 Initial Study Determination (CEQA)

Table 3-16 provides the determination of Project impacts to land use and planning.

Table 3-16 Land Use and Planning Environmental Checklist

Land Use and Planning Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.2 Affected Environment

No existing Right-of-Ways or land use authorizations occur within the Project Area; therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1 of Appendix G**.

3.12.3 Impact Analysis (CEQA)

a) *Would the Project physically divide an established community?*

No Impact: No, the proposed Project would not physically divide an established community. As stated above, the Project is located in a remote area of the Tumco mining district in the Cargo Muchacho Mountains, 14 miles southeast of the operating Mesquite gold mine in Imperial County, California. The Tumco Historic Mine is a historic and recreational area managed by the BLM for uses such as hiking, prospecting, wildlife viewing, and photography within western portions of the Project Area. The Project site is entirely within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. The Project Area is undeveloped, not located within an established community, and does not serve as a means of moving through or connecting to a community or neighborhood.

There are no established communities within or immediately adjacent to the Project. For these reasons, the proposed Project would not physically divide an existing community, and no impacts would occur.

b) *Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

No Impact: No, the Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Project site is located within a historical mining area. Per the current Imperial County General Plan and Zoning Ordinance, the Project site has a designation of “Recreation/Open Space” and a current Zoning designation of “BLM”. SMP’s proposed

Project operations (i.e., exploratory drilling) are allowable within these County land use designations. Additionally, the Project does not require changes to the Imperial County General Plan or Zoning designations, nor would the Project conflict with any land use designations/land use plans in order to mitigate an environmental effect.

Project activities would also be consistent with applicable zoning designations and land use requirements published by Imperial County. Therefore, the proposed Project would not cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and no impacts would occur.

3.13 Mineral Resources

3.13.1 Initial Study Determination (CEQA)

Table 3-17 provides the determination of Project impacts to mineral resources.

Table 3-17 Mineral Resources Environmental Checklist

Mineral Resources Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.13.2 Affected Environment

The Proposed Action would not involve the removal of large quantities of earth that may potentially lead to structural instability. A small amount of material would be removed from boreholes and would not affect potential mineral resources in the ground; therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1** of **Appendix G**.

3.13.3 Impact Analysis (CEQA)

- a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

Less Than Significant Impact: No, there would be no loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Conversely, the Project proposes to conduct exploratory drilling to determine if future development of valuable mineral resources, specifically gold and silver, would be economically feasible. The SMARA requires the State Geologist to classify mineral lands to help identify and protect mineral resources in California; however, the Project area has not been mapped through a Mineral Land Classification (MLC) study or assigned a specific Mineral Resource Zone (MRZ) using the State’s mineral land classification system. Accordingly, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, and less than significant impacts would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Less Than Significant Impact: No, the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. As discussed under CEQA Criteria a) above, the Project site is not located within a State-designated MRZ mineral resource recovery area. However, according to Figure 8 (Existing Mineral Resources) within the Conservation of Open Space Element of the Imperial County General Plan (Imperial County 2015), the Project is mapped within an area noted for having active “gold” mines and commodities. As discussed above, the Project proposes to conduct exploratory drilling to determine if future development of valuable mineral resources, specifically gold and silver, would be economically feasible. Accordingly, the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, and no new impacts would occur. Conversely, the Project proposes to conduct exploratory drilling to determine if future development of valuable mineral resources would be viable, which represents a less than significant impact.

3.14 Native American Religious Concerns and Traditional Values

3.14.1 Initial Study Determination (CEQA)

Table 3-18 provides the determination of Project impacts to Tribal cultural resources (nomenclature based on Imperial County IS form).

Table 3-18 Tribal Cultural Resources Environmental Checklist

Tribal Cultural Resources Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.14.2 Affected Environment

The BLM considers the views of Native Americans prior to BLM decisions or approvals that could result in changes in land use, physical changes to lands or resources, changes in access, or alienation of lands (BLM 2016). In accordance with the NHPA (P.L 89-665), NEPA, FLPMA (P.L. 94-579), the American Indian Religious Freedom Act of 1978 (P.L. 95-341), the Native American Graves Protection and Repatriation Act (NAGPRA) (P.L. 101-601) and EO 13007, the BLM must provide affected Tribes an opportunity to comment and consult on the proposed Project. The BLM must attempt to limit, reduce, or possibly eliminate any negative impacts to Native American traditional/cultural/spiritual sites, activities, and resources.

The area of analysis for Native American Religious Concerns and Traditional Values is the same as the VAA APE (see **Section 3.8; Figure 3-2**). The area of analysis is located within the traditional territory of the Quechan Indian Tribe of the Fort Yuma Indian Reservation, California and Arizona (Daniels et al. 2022; NCIDC 2022). The BLM invited the following additional Tribes into consultation whom may have an interest in the Project Area and activities within Imperial County, including the Barona Band of Missions Indians, Campo Band of Mission Indians, Cocopah Indian Tribe, Colorado River Indian Tribes, Ewiiapaayp Band of Kumeyaay Indians, Iipay Nation of Santa Ysabel, Jamul Indian Village, Kwaaymii Laguna Band of Indians, La Posta Band of Kumeyaay Indians, Manzanita Band of Kumeyaay Indians, Mesa Grande Band of Mission Indians, San Pasqual Band of Diegueño Indians, Sycuan Band of Kumeyaay Nation, Torres-Martinez Desert Cahuilla Indians, and Viejas Band of Kumeyaay Indians. Traditionally, the Quechan Indian Tribe utilized lands or resources within the general Project Area and during the 30-day review period of this EA they identified a TCP that encompasses the Project Area and extends beyond the boundaries of the Physical and VAA APEs. The full extent of the TCP has not been delineated. Consultation

with Native American tribes is ongoing to understand what if any potential adverse effects the proposed project may have to sensitive areas having religious or cultural importance.

Quechan territory extended from just south of the Gila River-Colorado River confluence north to at least Palo Verde and Cibola valleys and probably as far north as the Big Maria and Riverside mountains where they abutted Mohave territory (Daniels et al. 2022). Currently, the Quechan reside near El Centro, California and Yuma, Arizona on the Fort Yuma Indian Reservation, California and Arizona. The reservation encompasses approximately 45,000 acres bordering Arizona, California, and Baja California, Mexico. The Tribe currently has over 3,200 members and is largely an agricultural community. Fort Calhoun, the predecessor to Fort Yuma, was constructed in 1849 as a US military outpost. The original buildings burned and were rebuilt as Fort Yuma in 1855. The Fort was abandoned and transferred to the US Department of the Interior and the Quechan Indian Tribe in 1884 (Quechan Tribe 2022). The Quechan relied on riverine resources as well as agriculture. The Quechan and other Tribes practiced small scale agriculture, collected and stored wild plant foods with the most important being screwbean mesquite, and hunted and fished (Daniels et al. 2022).

On March 31, 2021, the BLM sent letters to 16 tribes initiating formal government-to-government consultation on the Plan, in accordance with the NHPA and other legal authorities. Communication and consultation with Tribes continued over the course of the next two years and on April 13, 2023, the BLM sent letters to 16 Tribes initiating formal consultation on the Section 106 findings and effects determination for the Project. The list of Tribes contacted and a summary of the consultation letters sent by the BLM for this project is provided in **Section 4.1.1**. Government-to-government and Section 106 of the NHPA tribal consultation is ongoing, and as part of the consultation process, notification of publication of this EA was provided to the tribes.

Table 3-19 includes a list of coordination meetings between the BLM and Tribes that followed Project initiation.

Table 3-19 BLM and Tribal Meetings on the Proposed Action To Date

Date	Coordination Description
July 12, 2021	Government-to-Government consultation meeting between the BLM and representatives of the Fort Yuma Quechan Indian Tribe.
April 15, 2021; May 19, 2021; June 23, 2021; July 22, 2021; August 25, 2021; October 19, 2021; November 30, 2021; January 12, 2022; February 15, 2022; March 15, 2022; June 9, 2022	Monthly BLM Project coordination meetings with the Fort Yuma Quechan Indian Tribe Historic Preservation Officer.
September 20, 2022	Site visit conducted at the Project Area hosted by the BLM and attended by representatives of the Fort Yuma Quechan Indian Tribe and the Campo Band of Mission Indians.
September 21, 2022	Virtual Section 106 of the NHPA consultation meeting following the September 20, 2022 site visit hosted by the BLM and attended by representatives of the Fort Yuma Quechan Indian Tribe and the Campo Band of Mission Indians and the San Pasqual Band of Diegueño Indians.
September 27, 2022	Site visit conducted in the Project Area hosted by the BLM and attended by representatives of the Fort Yuma Quechan Indian Tribe.
November 9, 2022	Government-to-Government consultation meeting between the BLM and representatives of the Fort Yuma Quechan Indian Tribe at Tribal Council Chambers.
January 10, 2023	Virtual consultation meeting between the BLM (State, District, & El Centro) and the Fort Yuma Quechan Indian Tribe Historic Preservation Officer and members of the Fort Yuma Quechan Indian Tribe Cultural Committee.

Date	Coordination Description
January 30, 2023	Virtual consultation meeting between the BLM (State, District, & El Centro) and the Fort Yuma Quechan Indian Tribe Historic Preservation Officer and members of the Fort Yuma Quechan Indian Tribe Cultural Committee.
February 14, 2023	In person consultation meeting between the BLM and the Fort Yuma Quechan Indian Tribe Historic Preservation Officer and members of the Fort Yuma Quechan Indian Tribe Cultural Committee.
May 12, 2023	Virtual Sec 106 Consultation regarding the findings and effects determinations meeting between the BLM and the Fort Yuma Quechan Indian Tribe Historic Preservation Officer and members of the Fort Yuma Quechan Indian Tribe Cultural Committee.

3.14.3 Environmental Impacts (NEPA) – Proposed Action

Various locations throughout the BLM El Centro Field Office administrative area host certain traditional, spiritual, and cultural use activities today, as they did in the past. A TCP has been identified that encompasses and extends beyond the Project Area; however, the full extent of the TCP has not been physically delineated. The BLM continues to solicit input from local tribal entities and coordinates with the Tribes to identify any other sites or artifacts, or cultural, traditional, and spiritual use resources and activities that might experience an impact.

To date, comments have been received from seven Tribes: the Fort Yuma Quechan Indian Tribe, the Colorado River Indian Tribes, the San Pasqual Band of Diegueño Indians, the Campo Band of Mission Indians, the Cocopah Indian Tribe, the Viejas Band of Kumeyaay Indians, and the La Posta Band of Kumeyaay Indians. Most notably in opposition to the Project have been the Fort Yuma Quechan Indian Tribe, stating "The proposed Project location is sited within a region that is highly significant to the Fort Yuma Quechan Indian Tribe. This is a location that the Tribe attaches great cultural, religious and spiritual significance to. The Fort Yuma Quechan Indian Tribe objects to the proposed mining project and the proximity of the operation to a significant cultural landscape and items of cultural patrimony which are integral to the spiritual and everyday lives of the Quechan people." A number of letters and meetings have resulted in changes to the Cultural Resources Survey Work Plan and efforts to identify historic properties and most notably the development of a VAA APE for the Project. Drilling exploration operations have historically been considered temporary effects and therefore a VAA APE was not originally determined to be required. In a letter dated October 14, 2022, the Fort Yuma Quechan Indian Tribe requested Government-to-Government consultation and identified that the proposed project is located within a larger landscape they consider a TCP. They also voiced several other concerns including continued opposition to the Project. The BLM has requested additional information about the nature and extent of the TCP as part of its Government-to-Government consultation, as well as for Section 106 of the NHPA consultation and relevant to other EOs and regulations. Currently, not enough information has been provided to understand the nature, use of the resource, and physical extent of the TCP; therefore, additional details on the potential physical delineation of the extent of the TCP and the known physical and intangible resources that exist within the TCP would have to be provided to the BLM to further assess impacts or determine if there are additional minimization or avoidance measures that would apply. Ongoing consultation will continue for this Project with all Tribes that have been contacted and/or expressed interest in the Project; however, the Fort Yuma Quechan Indian Tribe has been the primary Tribe involved in Government-to-Government consultation for the Project to date.

Further, as noted in **Section 3.8**, the Project would avoid both known prehistoric sites that have been identified within the Physical APE, and which have been determined to potentially contribute to the eligibility of the TCP within the larger VAA APE (defined above in **Section 3.8.2**). . Precautionary Environmentally Sensitive Area fencing would be placed in applicable activity areas near known sites to prevent inadvertent impacts. Therefore, at the time of this EA, no physical impacts to known cultural sites have been identified and are not anticipated from the Proposed Action. Impacts including visual or noise effects could occur during the construction and operation phases of the exploration activities within the

VAA APE. Visual and auditory effects would be temporary and may include visual obstructions and loud noise levels which could affect the integrity of setting or feeling of locations possibly deemed sacred or traditionally important by Native Americans. Assessment of the Visual APE identified 18 potential sites that may be visually affected; however, views of the Project would not likely create adverse effects to historic properties and any visual impacts at identified sites would be temporary. Assessment of the Auditory APE and review of the noise modeling (described further under **Section 3.15**) identified that noise levels would be similar to those for a suburban residential area at night, a level that would not likely cause adverse effects to significant Native American resources, and any noise level increases at identified sites would be temporary and intermittent throughout the life of the Project. Although very limited occurrences of desert microphyll woodland vegetation types have been documented within the area of analysis (**Appendix E**), CMAs would be implemented to minimize impacts to these vegetation communities to ensure Native American vegetation collection areas and practices are maintained, including LUPA-CUL-9 and LUPA-CUL-11. An additional BLM-required mitigation measure would also be implemented to minimize impacts from minor incursions to microphyll woodlands (**Appendix F**). With implementation of PDFs and CMAs (**Appendix F**), and due to the short-term nature of the Project, impacts to Native American religious concerns and traditional values would be short-term and localized, and adverse impacts are not anticipated as the known physical sites within the TCP that has been identified would be avoided. By letter dated April 13, 2023, the BLM provided its proposed Section 106 determination of no adverse effects to historic properties to all tribes for a 30-day consultation period. The BLM has also concluded consultation with the SHPO on these findings as well and the Section 106 process is complete. Government-to-Government consultation with the Tribes will continue throughout the life of the Project.

3.14.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM and activities described in **Section 2.1** would not be conducted; therefore, there would be no impacts to Native American religious concerns and traditional values under the No Action Alternative outside of those that may occur under existing conditions.

3.14.5 Impact Analysis (CEQA)

On July 1, 2015, California AB 52 of 2014 went into effect, expanding CEQA by defining a new resource category, “tribal cultural resources.” AB 52 states, “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (Public Resources Code [PRC] Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

AB 52 also establishes a formal consultation process for California tribes regarding tribal cultural resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies (in this instance, Imperial County) are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those that have requested notice of projects proposed in the jurisdiction of the lead agency.

On September 9, 2021, the County distributed an AB 52 consultation letter for the proposed Project. Specifically, Project information, a map, and contact information was sent to the Fort Yuma Quechan Indian Tribe. Due to the geographic location of the Project, the Fort Yuma Quechan Indian Tribe is the only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52.

Under AB 52, Native American tribes have 30 days to respond and request further project information and request formal consultation; however, none of the contacted tribes responded within 30 days of mailing of the letters in response to Imperial County. Accordingly, AB 52 consultation is considered complete for the Project.

(i) Would the Project impact a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Less Than Significant Impact: The proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource. No tribal cultural resources have been identified within or near the Project Area. Additionally, no significant ground disturbing activities with the potential to uncover undiscovered tribal cultural resources would be required as a result of the Project.

As discussed above, in accordance PRC Section 21074 – AB 52, the County contacted the Fort Yuma Quechan Indian Tribe to obtain their input and concern with potential impacts to tribal cultural resources as a result of the Project. The Fort Yuma Quechan Indian Tribe is that only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52. As discussed above, to date, the Fort Yuma Quechan Indian Tribe has not responded to Imperial County’s AB 52 consultation letter or indicated they would require further tribal consultation; however, in coordination with Imperial County, the BLM has engaged in extensive consultation efforts with the Fort Yuma Quechan Indian Tribe as part of the Section 106 of the NHPA process. To date, no other responses or input has been received from the other tribes consulted through PRC Section 21074 – AB 52.

Furthermore, as discussed above, separate from Imperial County’s AB 52 consultation process, the BLM considers the view of Native American prior to BLM decisions or approvals that could result in changes in land use, physical changes to lands or resources, changes in access, or alienation of lands (BLM 2016). As described above under **Section 3.14.2 and 3.14.3**, the BLM has consulted with several tribal entities per the Section 106 of the NHPA process. Extensive outreach and consultation efforts, including in-person and virtual meetings and site visits have been completed by the BLM, including specifically with the Fort Yuma Quechan Indian Tribe. The BLM will continue Government-to-Government consultation with the tribes that have requested such consultation, including the Fort Yuma Quechan Indian Tribe, throughout the life of the Project. **Section 4.1** provides additional detail on the Government-to-Government consultation process conducted by the BLM.

As discussed previously, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Additionally, the Project Area is entirely within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. As such, the potential to impact tribal cultural resources is considered low.

SMP has committed to avoidance of all cultural resources and has engaged with the Native American Heritage Commission and the Fort Yuma Quechan Indian Tribe regarding the Project. SMP would implement the PDFs, CMAs, and additional BLM required mitigation measures described in detail in **Appendix F**, which would be implemented throughout the life of the Project to ensure potential impacts to tribal cultural resources are completely avoided. With the implementation of the PDFs, CMAs, and additional mitigation measures, as discussed above in **Section 3.8.3 and 3.14.3 and Appendix F**, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 2107. Impacts would be less than significant, with no additional mitigation measures required beyond those required by the BLM and Imperial County in **Appendix F**.

(ii) Would the Project impact a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I to Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision I of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less Than Significant Impact: See response to CEQA Criteria a)i. above. As discussed previously, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Additionally, the Project site is within an area previously disturbed by historical mining activities, with surrounding land uses that include prospecting and recreation. As such, the potential to impact tribal cultural resources is considered low. Additionally, through the implementation of the PDFs, CMAs, and additional mitigation measures described in **Section 3.8.3** and **Section 3.14.3** above and within **Appendix F**, as well as through BLM's continued consultation with local tribal entities, as applicable, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074. Impacts would be less than significant, with no additional mitigation measures required beyond those required by the BLM and Imperial County in **Appendix F**.

3.14.6 Cumulative Effects

Based upon comments received in response to Government-to-Government and Section 106 of the NHPA consultation meetings, the BLM recognizes that Native American religious concerns and traditional values may have been impacted by past actions in the vicinity of the Project Area and within the VAA APE. There is concern that the Proposed Action would further impact a larger cultural landscape, such as the identified TCP, but the nature of those impacts has not been specified other than general opposition to the Project. Additionally, as described above in **Sections 3.8.2** and **3.14.2**, the physical extent of the TCP has not been determined. Specifically, the Fort Yuma Quechan Indian Tribe has asserted that past mining activity and vehicle use (including OHVs) in the Project Area and within the larger landscape, including within the Picacho ACEC, have impacted an important TCP. However, these assertions have been general statements regarding a larger cultural landscape for which a boundary has not yet been defined, nor has information been provided about how the Project would specifically impact the ongoing use or cultural practices of Tribes. At this time, not enough information has been provided in order for the BLM to develop a CESA that is representative of the area where cumulative impacts may occur, in combination with the Proposed Action, to the potential TCP that may exist within the vicinity and/or other Native American religious concerns and traditional values. Until such time that additional information is provided to the BLM, a qualitative cumulative impacts assessment is included herein which analyzes the VAA APE. Within the VAA APE, past mineral development and explorations, public purpose projects, roads, and dispersed recreation have occurred. There are no RFFAs within the VAA APE. Present disturbance from the American Girl Mine and the American Girl mineral materials site occurs within the VAA APE; there is also an existing powerline owned by the Imperial Irrigation District that crosses through the VAA APE. The Proposed Action could temporarily alter the spiritual or cultural experience for Native American users; however, the eventual reclamation of projects throughout the VAA APE would reduce visual impacts from unnatural lines and landforms are regraded to better blend with the surrounding topography during closure and final reclamation. Spiritual and religious use locations may be present within the VAA APE, but the exact locations are unknown to the BLM. If specific locations of spiritual and religious use are present near past or present actions, including the Proposed Action, they could be cumulatively impacted but the Proposed Action is temporary and so there would not be an additive effect. If previously undisclosed places of spiritual and religious use become known within the Project Area, consultation with the Tribes would be conducted to determine potential impacts. As previously described, all known cultural resource sites within the VAA APE are being avoided, and consultation with Tribes will continue throughout the life of the Project.

3.15 Noise

3.15.1 Initial Study Determination (CEQA)

Table 3-20 provides the determination of Project impacts to noise.

Table 3-20 Noise Environmental Checklist

Noise Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.15.2 Affected Environment

The area of analysis for noise is the Project Area plus the Indirect Auditory APE (**Figure 3-5**). The Noise Control Act of 1972 required the EPA to establish noise emission criteria as well as noise testing methods to protect public health and welfare against hearing loss, annoyance, and activity interference, which correlates with the human response to noise. The EPA’s recommendation for acceptable noise level limits affecting residential land use is 55 decibels on the A-weighted scale (dBA) day/night average sound level (L_{dn}) for outdoor activity (EPA 1972). Additionally, a nighttime noise standard of 45 dBA equivalent or energy-averaged sound level (L_{eq}) is implemented by the Imperial County Code of Ordinances (Section 90702.00). These levels of noise are considered those that would permit spoken conversation and other activities such as sleeping, working, and recreation, which are all considered part of the daily human condition; these levels represent averages of acoustic energy over periods of time.

The area of analysis is in a remote location, within mountainous topography of the Cargo Muchacho Mountains that extends to the east and a lower valley and washes to the west. There are no residences in the vicinity. The historic Tumco Mine is present within the area of analysis (**Figure 3-5**), where recreationalists may partake in walking tours and sightseeing. Blythe Ogilby Road runs north-south through the area of analysis, where traffic conditions (**Section 3.13**) contribute to the existing noise environment. OHV use within the area may contribute to existing noise levels as well but is intermittent, and the regularity of such is dependent on recreational seasonality.

3.15.3 Environmental Impacts (NEPA) – Proposed Action

Acoustic modeling was conducted to determine the furthest distance that noise generated by the Proposed Action would travel, attenuating at 25 dBA, a nearly imperceptible level of noise to the human ear (Saxelby

2022). Based on the topography of the area of analysis, noise would travel furthest to the west. Acoustic modeling was run based on four separate scenarios that were determined to most realistically represent the furthest that noise would travel as generated from the Project: two drill rigs operating in Drill Area 2, Drill Area 3, Drill Area 4, and Drill Area 6 to represent all potential noise levels traveling to the northwest, west, and southwest. Each acoustic modeling scenario also included noise generated from all staging area equipment proposed within Drill Area 1 that would contribute to noise level increases (Saxelby 2022).

Noise generated from helicopter use via the helicopter landing pad proposed in Drill Area 1 would not contribute to continuous noise generated by Project drilling activities. The furthest extent of the noise contours as modeled (Saxelby 2022) would travel approximately 1.7 miles to the southwest from the Project Area as a result of drilling activity in Drill Area 6 (**Figure 3-5**). Noise impacts as a result of exploratory drilling activities would be temporary in nature and would not be stationary throughout the one-to-two-year life of the Project given the nature of the proposed approximately two-week drilling campaign at each drill site. Additionally, the BLM would require a mitigation measure for notices to be posted on the BLM's website and at designated recreational sites in the area (i.e., Tumco) notifying the public of dates and times that drilling would occur with elevated levels of noise and activity in the Project Area (**Appendix F**). CMA LUPA-BIO-12 would also be implemented to minimize noise impacts to BLM special status and sensitive wildlife species, as described in **Appendix F**. Whereas noise level increases would occur under the Proposed Action, no human sensitive noise receptors were identified due to the remote location of the Project, and with these BMPs, CMAs and mitigation measures in place, and due to the short-term and non-stationary nature of the Project, noise impacts would be negligible, short-term, and localized.

3.15.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM and activities described in **Section 2.1** would not be conducted; therefore, there would be no noise level increases under the No Action Alternative and noise would continue under current conditions.

3.15.5 Impact Analysis (CEQA)

Refer to the *Noise Modeling for Indirect Auditory Area of Potential Effect* (Stantec 2022b) technical memorandum in **Appendix E** for additional detail supporting the below impact analysis.

- a) *Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less Than Significant Impact: No, the Project would not generate a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Both the Imperial County General Plan (Imperial County 2015) and the Imperial County – Code of Ordinances (Imperial County 2022), specifically County noise standards applicable to the Project. As discussed previously, per the current Imperial County General Plan Land Use Map (updated March 1, 2007) and Zoning Map (Zone 70), the entire Project site has a General Plan designation of “Recreation/Open Space” and a Zoning designation of “BLM”.

While the County General Plan contains various numerical noise standards, these standards generally “apply to noise generation from one property to an adjacent property”, however, “the standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate.” (Imperial County 2015). As discussed above, the Project is located in a remote and undeveloped area of the Tumco mining district in the Cargo Muchacho Mountains. As such, the closest potential sensitive receptor would be the Gold Rock Ranch RV Resort located approximately 2.3 miles away from the Project Area, specifically Drill Area 3. As shown within the noise analysis (**Appendix E**), the Gold Rock Ranch RV Resort is located well outside

the modelled 25 dBA noise contour, and therefore worst-case project impacts would be imperceptible at this location.

In addition to the General Plan, the County's Code of Ordinances was also reviewed. Specifically, Title 9 (Land Use Code), Division 7 (Noise Abatement and Control) contains various noise standards applicable to the Project. As with the County General Plan, standards presented within the Code of Ordinances also generally apply to human receptors only, or to noise sources which may be "a detriment to the public health, comfort, convenience, safety, welfare, and prosperity of the residents of the county of Imperial." (Imperial County 2022). As stated above, other than SHP staff and contractors working directly within the Project Area, the closest offsite human receptor would be the Gold Rock Ranch RV Resort located approximately 2.3 miles away from the Project Area. Due to the large distance between the Project operations and the Gold Rock Ranch RV Resort, as well as intervening topography between the Project sources and this receptor, noise generated by Project exploration operations would have no appreciable effect on this human receptor.

Project exploration activities over the proposed 12- to 24-month Project duration would have no appreciable effect on nearby human noise receptors as defined within the County General Plan and Code of Ordinances. Due to the large distance between the closest receptor(s) (i.e., Gold Rock Ranch RV Resort) and the proposed Project operations, as well as intervening topography that would break line-of-sight between Project equipment sources (i.e., drilling rigs) and receptors, noise generated by Project operations is estimated to be imperceptible at these closest receptors. As such, the Project would comply with the applicable County General Plan and Code of Ordinances, and there would be less than significant with no mitigation required.

b) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact: See response to CEQA Criteria a) above. Drill rig and offroad mobile equipment (loaders, dozers, etc.) operations with the potential to generate groundborne vibration would be minimal, and any potential effects would be highly localized and generally below the threshold of human receptors beyond areas immediately adjacent to the operating equipment. Blasting or other industrial operations with the potential to generate significant levels of groundborne vibration are not proposed as part of the Project. Additionally, as discussed above, the closest nearby sensitive human receptors/residential area is the Gold Rock Ranch RV Resort located approximately 2.3 miles to the west of Drill Area 3, across Blythe Ogilby Road. Therefore, the proposed Project would not generate excessive groundborne vibration levels, and there would be less than significant impacts.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact: No, the proposed Project is not within the vicinity of an airport land use plan, nor is the Project within two miles of a public airport or public use airport. As discussed previously, the closest airstrip/airport to the Project site is the Holtville Airport, a relatively small county-owned airport located over 25 miles away from the Project site to the west. Therefore, less than significant impacts would occur.

3.16 Population and Housing, Public Services, and Utilities and Service Systems

3.16.1 Initial Study Determination (CEQA)

Table 3-21 provides the determination of Project impacts to population and housing, public services, and utilities.

Table 3-21 Population and Housing, Public Services, and Utilities and Services Environmental Checklist

Population and Housing, Public Services, and Utilities and Service Systems Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Population and Housing					
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Services					
a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	1) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	2) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	3) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	4) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	5) Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Utilities and Service Systems					
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Population and Housing, Public Services, and Utilities and Service Systems Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	project's projected demand in addition to the provider's existing commitments?				
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.16.2 Affected Environment

Due to the short-term and small-scale nature of exploration activities and the remote area of the Project, impacts to population and housing would not occur; temporary drilling crews would be on-site at the Project during exploration operations and employees would likely stay off-site in the nearby communities of Winterhaven, California, El Centro, California, or Yuma, Arizona. The Proposed Action is unlikely to increase demand for short-term housing in the area or noticeably increase demand for public or private services; therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1 of Appendix G**.

3.16.3 Impact Analysis (CEQA)

Population and Housing

- a) *Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?*

No Impact: No, the proposed Project would not induce substantial unplanned growth in an area. The proposed Project would not involve construction of new residences, nor would it require a significant number of additional personnel or contractors working on- or off-site (estimate Project exploration would require a maximum of approximately 13 onsite employees at a given time). Additionally, other than using existing access roads and improving other existing access roads (approximately two miles of existing roads would be improved), no new or extended public roadways or public utility facilities or infrastructure are proposed; therefore, the Project would not increase utilities or other infrastructure to the Project area that may otherwise indirectly induce population growth in the County. Accordingly, the proposed Project would not induce substantial unplanned population growth in an area, either directly or indirectly, and no impacts would occur.

- b) *Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

No Impact: No, the proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The Project site is an exploratory drilling project, located within a remote area used for historical mining operations. SMP's proposed exploratory drilling operations would occur entirely within the footprint of areas previously disturbed by these historical mining operations. The Project site and surrounding areas are undeveloped and do not contain existing dwelling units, and the proposed Project would not displace any persons or housing. Additionally, as

discussed under CEQA Criteria a) above, the Project would not change the existing land use in the Project area, nor would it substantially increase the number of on- or offsite employees. Therefore, no additional construction of replacement housing elsewhere would be required. As such, the proposed Project would not displace a substantial number of existing people or housing, and no impacts would occur.

Public Services

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

1. *Fire protection?*
2. *Police protection?*
3. *Schools?*
4. *Parks?*
5. *Other public facilities?*

No Impact: See discussions below.

Fire Protection: No, the proposed Project would not result in substantial adverse physical impacts to any fire protection services. The Project Area is within a remote, undeveloped area of the County that is generally not prone to wildfire (see **Section 3.24**). The proposed Project (i.e., exploratory drilling) would not involve any operations with a high potential to result in an accidental fire.

As discussed in **Section 3.11** and **Appendix F**, SMP would incorporate numerous fire prevention and fire safety measures into their standard operating procedures.

Additionally, the proposed Project does not include the development of new housing or increase utility capacity, water supply, or add new infrastructure to the area that would otherwise directly or indirectly induce population growth in the area that would increase demand for fire protection services. For these reasons, the proposed Project would not have an effect upon or result in a need for new or physically altered fire protection services to maintain acceptable service ratios, response times, or other performance objectives, and no impacts would occur.

Police Production: No, the proposed Project would not result in substantial adverse physical impacts to any police protection services. As discussed under CEQA Criteria a) above, the Project area is located within a remote, undeveloped area of the County and is accessed via existing public roadways. The proposed Project does not include new housing and would not require significant additional on- or off-site employees beyond those who currently reside within the County. In addition, the Project would not directly or indirectly induce population growth in the area that would increase demand for police protection services.

During all operations, SMP would maintain equipment and conduct activities in a safe and orderly manner. Due to the isolated nature and remote locations of the proposed access roads and drill sites, public security and safety are not a concern; however, as needed, certain access roads may be gated and/or locked to prevent public access. For example, the staging area (**Figure 2-1**) where the Oro Cruz Mine Portal is located would be secured with chain link fence and razor wire and locked with warning signs during brief periods of non-operation. All employees and contractors would be required to complete an employee safety training prior to commencement of operations.

For these reasons, the proposed Project would not have an effect upon or result in a need for new or physically altered police protection services to maintain acceptable service ratios, response times, or other performance objectives, and no impacts would occur.

Schools: No, the proposed Project would not result in substantial adverse physical impacts to any schools. As discussed under CEQA Criteria a) and b) above, the Project area is within a remote and undeveloped area of the County and is accessed via existing public roadways. Based on the nature of the Project and the fact that the number of on- and off-site employees would not significantly increase above existing levels, the Project would not require an increased demand for public schools, or other related public facilities. Additionally, the Project would not generate development or changes in land use intensities that would change or increase student enrollment in the County's school system. Therefore, the proposed Project would not have an effect upon or result in a need for new or physically altered schools to maintain acceptable service ratios or other performance objectives, and no impacts would occur.

Parks: No, the proposed Project would not result in substantial adverse physical impacts to any parks. As discussed under CEQA Criteria a), b) and c) above and **Section 3.17**, the Project area is within a remote and undeveloped area and is accessed via existing public roadways. The Project would not generate development or changes in land use intensities that would change or increase demand for public parks and recreational facilities within the County. Therefore, the proposed Project would not have an effect upon or result in a need for new or physically altered parks to maintain acceptable service ratios or other performance objectives, and no impacts would occur.

Other Public Facilities: No, the proposed Project would not result in substantial adverse physical impacts to any other public facilities. The Project area is within a remote and undeveloped area and is accessed via existing public roadways. The proposed Project does not include new housing and the number of on- and off-site employees would not substantially increase above existing levels within the County. In addition, the Project would not otherwise directly or indirectly induce population growth in the area that would increase demand for other public facilities, such as libraries. Therefore, the proposed Project would not have an effect upon or result in a need for other new or physically altered public facilities, such as libraries, to maintain acceptable service ratios, response times, or other performance objectives, and no impacts would occur.

Utilities and Service Systems

- a) *Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?*

Less Than Significant Impact: No, the Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects.

Surface and groundwater within the Project Area would not be used as a source for water for the drilling. Rather, water for drilling and dust suppression would be provided by the drilling company via a mobile water truck. Specifically, the water would be procured from Gold Rock Ranch and/or another local water purveyor. It is anticipated that two 1,000-gallon water trucks would be required onsite each day. Additionally, a 2,000-gallon portable water storage tank would be kept onsite for drilling and dust suppression. A mobile water truck would be utilized onsite for dust suppression, and applied water would either naturally evaporate or infiltrate into the ground.

The site would not be connected to a public water system. Minimal quantities of fresh potable water for onsite employees would be provided by water bottles.

No wastewater would be generated during Project operations, as no onsite processing would occur within the site. All rock products and waste rock generated during Project operations would be naturally occurring rock. Chemicals or other hazardous materials would not be utilized during drilling activities. Water used during the drilling process would come into contact with bentonite drilling mud and ground rock at depth. It would be managed and handled after it is pumped back out of the hole by evaporation and by allowing

solids to settle out in excavated mud pits or sumps at the drill site. The sumps would be backfilled after evaporation. There would be no discharges outside the drill site or in surface tributaries, and no pollutants would be discharged in accordance with the CWA requirements. As discussed above, activities would be conducted in compliance with applicable county, state, and federal laws, including requirements specific to California's CGP for stormwater discharges, if deemed necessary by the BLM and/or Imperial County.

The Project would not be connected to a public sewer system. If needed, temporary portable toilets may be placed within the Project Area. If installed, portable toilet facilities provided for the duration of the Project would be maintained by contractors and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried onsite. Operations in the Project Area would not produce any industrial or domestic wastewater discharges onsite.

The Project would not require the construction of new electric power, natural gas, or telecommunications facilities or infrastructure. Power would be provided by diesel fuel, as well as two diesel-powered generators (125 kW or equivalent). There would be no onsite natural gas storage or consumption as part of the Project. As discussed previously, telecommunications would be facilitated using personal cellular telephones, or satellite phones in case of emergencies.

For the reasons outlined above, the Project would have less than significant impacts related to the relocation or construction of new or expanded utilities infrastructure/facilities.

- b) Would the Project have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years?*

Less Than Significant Impact: The Project would have sufficient water supplies available during normal, dry and multiple dry years. As discussed under CEQA Criteria a) as well as in **Section 3.22**, water for drilling and dust suppression would be provided by the drilling company via a mobile water truck. Specifically, the water would be procured from Gold Rock Ranch and/or a local water purveyor. Minimal quantities of fresh potable water for onsite employees would be provided by water bottles. Groundwater within the Project Area would not be used as a source for water for the drilling. The Project water purveyors (i.e., Gold Rock Ranch and/or other local company) have sufficient water supplies available to serve the Project. Therefore, the Project would have less than significant impacts.

- c) Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less Than Significant Impact: As discussed above, no wastewater would be generated during Project operations, as no onsite processing would occur within the site. The site would also not be connected to a public sewer system. If needed, temporary portable toilets may be placed within the Project Area. If installed, portable toilet facilities provided for the duration of the Project would be maintained by contractors and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried onsite. As such, operations in the Project Area would not produce any industrial or domestic wastewater discharges onsite.

Other than the use of temporary portable toilets placed within the Project Area, no other wastewater disposal systems would be installed as part of the Project site. The Project would not discharge wastewater to County public sewer infrastructure, or another wastewater treatment provider. Therefore, no impacts would result.

- d) Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less Than Significant Impact: No, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Minimal quantities of solid trash generated by the contractors would be collected in appropriate containers and removed as required for accordance with applicable laws and regulations. No refuse would be disposed of onsite. The Project would be sufficiently served by permitted Class I, II and/or III solid waste landfills that have sufficient capacity to meet the Project’s minimal needs in terms of solid waste generation and disposal. Therefore, the Project would have less than significant impacts.

e) *Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Less Than Significant Impact: The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. As discussed above, Project operations would be short-term (i.e., estimated 12- to 24-months total) and conducted in compliance with local, state and federal regulations. The Project operations, including any construction and/or reclamation, would not result in a significant amount of solid waste generation. Any solid waste generate as a result of the Project would be managed according to state and local requirements, and properly disposed of offsite. The Project would comply with federal, state and local solid waste statutes and regulations. Therefore, less than significant impacts would result.

3.17 Recreation

3.17.1 Initial Study Determination (CEQA)

Table 3-22 provides the determination of Project impacts to recreation.

Table 3-22 Recreation Environmental Checklist

Recreation Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.17.2 Affected Environment

The area of analysis for recreation is the Project Area. Recreational uses of public land within the area of analysis consist primarily of dispersed recreational activities including prospecting, hiking, OHV use, camping, wildlife viewing, photography, and historic site viewing (i.e., the Tumco Historic Mine). The area of analysis does not fall within any BLM LUPA Recreation Designations, including Special Recreation Management Areas, Extensive Recreation Management Areas, or National Scenic Cooperative Management Areas (DRECP Gateway 2021). No wilderness study areas or lands with wilderness characteristics are found in the area of analysis (Wilderness Connect 2021). The Imperial Sand Dunes Recreation Area, popular for camping and OHV use, is located to the west, outside the area of analysis.

The historic mining town of Tumco, formerly known as Hedges, is located in the area of analysis. A self-guided walking tour is available to the public to view the minimal remains of the once-bustling town, including crumbling foundations, a reservoir, and a cemetery. Camping and vehicle travel are prohibited within the townsite, and vehicle access is available to the parking area only, with the public advised to use hiking trails to access the site (BLM 2021).

The area of analysis is also in California Department of Fish and Wildlife (CDFW) hunting Zone D12, which is primarily made up of public lands administered by the BLM (**Figure 3-6**). This hunting zone has the lowest density deer herd in the State of California due to its harsh living environment where vegetation is sparse and water is limited (CDFW 2022a). The subspecies of deer within Zone D12 is the burro or desert mule deer (*Odocoileus hemionus eremicus*) (CDFW 2021a). There are 950 deer tags available for this hunting zone; the archery season in Zone D12 is October 1 through October 23 and general season dates run November 5 to November 27 (CDFW 2022b). In 2017, the estimated population count for Zone D12 was 5,174 deer (CDFW 2022c). In 2021, there were 947 deer tags issued and an estimated 106 bucks harvested from Zone D12 during the hunting season (CDFW 2021b).

3.17.3 Environmental Impacts (NEPA) – Proposed Action

Under the Proposed Action, the temporary new access roads and the main staging area/portal access road would strictly be used by Project vehicles accessing the exploration Drill Areas and would be equipped with signage noting restricted access. The proposed new access road to the proposed staging area and underground portal would be secured from unauthorized access for the duration of the Project, including during post-closure activities to ensure Project-only access. Other existing roads or trails within the area of analysis currently open to OHV use would remain available for public use under the Proposed Action. Road access is discussed in more detail in **Section 3.19**. Recreation activities at the Imperial Sand Dunes Recreation Area would not be impacted by the Proposed Action as it is located outside the area of analysis. Hunting within the area of analysis would be temporarily impacted as this recreational activity would be displaced away from the active drilling sites. Although the current use of the area of analysis and vicinity by mule deer is low, it is possible that mule deer would move away from the Project-related activity, resulting in hunters following them to the surrounding areas; however, the majority of deer harvested from Zone D12 are taken in the Whipple Mountains and Riverside Mountains located approximately 115 miles northeast of the Project Area (CDFW 2021a).

As the area of analysis provides spaces and opportunities for dispersed recreation, recreationalists may be less likely to visit the area during Project operations due to increased levels of noise and drilling equipment being visible within the Project area and with temporary access restrictions in place. Project operations would be temporary within each Drill Area, occurring over up to two weeks at up to two drill sites at a time before moving to a new drill site. The BLM would require notices to be posted at relevant locations and at designated recreational sites in the area notifying the public of dates and times that drilling would occur, bringing awareness to potential elevated levels of noise and activity in the Project Area during which time recreationalists may choose to visit locations outside of the Project Area, included as a mitigation measure in **Appendix F**. Additionally, CMA LUPA-CTTM-7 would be required for implemented management of recreation facilities, as appropriate, described further in **Appendix F**. Impacts to recreation under the Proposed Action would be minor, short-term, and localized.

3.17.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; thus, no impacts to recreation are anticipated under the No Action Alternative except for those occurring under existing conditions. Existing recreational uses would continue to occur in the Project Area and vicinity.

3.17.5 Impact Analysis (CEQA)

- a) *Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Less Than Significant Impact: No, the proposed Project would not increase the use of existing neighborhoods, regional parks or other recreational facilities. The Project site is located in the Tumco mining district in the Cargo Muchacho Mountains (approximately 35 minutes northwest of Yuma, Arizona), and is accessed via existing paved highways and graded roads. The Tumco Historic Mine is a historic and recreational area managed by the BLM for uses such as hiking, prospecting, wildlife viewing, and photography; however, the Project Area itself has been previously disturbed by historical mining activities. The nearest County Park is Osborne Park, located over 18 miles to the northwest of the Project area. The proposed Project does not include new housing and the number of on- and off-site employees would not increase substantially above existing levels. In addition, the Project would not directly or indirectly induce population growth in County areas that would in turn increase the use of existing neighborhood, regional parks or other recreational facilities. Conversely, development of the Project would prevent the public from accessing certain unsafe or unstable areas within the Tumco Historic Mine, and SMP would work with the BLM to properly manage the surrounding areas and maintain access, so public use for recreational purposes can continue throughout the life of the Project. Therefore, the proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and there would be less than significant impacts.

- b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?*

No Impact: No, the proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities. The Project site is located entirely within a remote area previously disturbed by historical mining activities and is accessed via existing paved highways and graded roads. The proposed Project does not include new housing and the number of on- and off-site employees would not increase substantially above existing levels within the County (estimate at most 13 onsite employees would be needed). In addition, the Project would not otherwise directly or indirectly induce population growth in the area that would require the construction or new or expansion of existing recreational facilities. Therefore, the proposed Project would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment, and no impacts would occur.

3.17.6 Cumulative Effects

The CESA boundary for recreation includes the Project Area plus a one-mile buffer (**Figure 3-3**). This CESA was chosen as it is the geographic area to which cumulative impacts to recreation opportunities would occur related to access, the viewshed, and/or noise experienced during recreating based on areas of known dispersed recreation and access points. The CESA encompasses 6,260 acres.

Within this CESA, past and present disturbance, as detailed in **Table 3-23**, has resulted from the following activities: mineral development and exploration projects (796 acres); utilities, infrastructure, and public purpose projects (17 acres); roads (30 acres); and dispersed recreation.

Table 3-23 Past, Present, and RFFAs in the Recreation CESA

Past, Present, and RFFAs, Disturbances and Projects		CESA
	CESA Acres	6,260
Past Actions		

Past, Present, and RFFAs, Disturbances and Projects	CESA
Mineral Development and Exploration	
Sand and Gravel Operations, Materials Sites and Community Sand and Gravel Pits	272
Notices	17
Mining and Exploration Projects	507
Past Actions Total Disturbance Acres	796
Present Actions	
Utilities, Infrastructure, and Public Purpose	
Power Lines	17
Roads and Railroads Present Actions	
Roads	30
Present Actions Total Disturbance Acres	47
Past and Present Total Disturbance Acres	843
Percent of CESA	13

Source: BLM 2022a-b

Of the 6,260 acres covered by the CESA, 843 acres of disturbance are associated with past and present disturbances, which is a disturbance of approximately 13 percent of the CESA. There are no RFFAs within the CESA, other than the Proposed Action, which is analyzed for cumulative impacts in the following section.

Past mineral development and exploration operations in the CESA, including the existing American Girl Mine and associated community pit, often limit public access to areas previously used for dispersed recreation. In addition, they may reduce the recreational value and modify the recreational setting when vegetation and/or wildlife are affected and may result in visual and noise impacts for those recreation users seeking experiences of isolation and solitude. These actions may also displace recreationists to surrounding areas. Impacts to recreation resources from mining and exploration operations may be long-term if left unreclaimed (such as open pits); however, impacts are typically short-term until reclamation is completed and access and use of the area is restored to pre-Project conditions. In addition, mining activities may increase the population of an area by bringing in mine employees and workers to the areas which may increase the use of recreation areas within the CESA.

Present disturbance associated with utilities, infrastructure, and public purpose projects in the CESA include powerlines. Lands occupied by utilities and infrastructure are generally still available for dispersed recreation activities, but the recreation setting may have changed due to the presence of man-made features such as powerlines and telephone poles. These facilities often include maintenance roads which may increase OHV use in the area and allow vehicular access to areas that previously had little, if any, OHV traffic.

Road disturbance within the CESA provides access to recreation areas and can also become a form of recreation. For those seeking solitude and a primitive outdoor experience, development of roads can impact the recreation experience by modifying the recreation setting with the visual appearance and noise of road traffic, as well as the increased vehicular traffic.

Urban development may restrict access for recreational use and create visual impacts for those seeking solitude and a primitive outdoor experience; however, there are no urban development areas within the CESA. Dispersed recreation and camping would continue to occur within the CESA and would be considered RFFAs. Impacts from RFFAs would be similar to those stated for past and present actions.

Proposed Action

Approval of the Proposed Action would increase disturbance within the CESA by 20.54 acres in addition to disturbance associated with past, present, and RFFAs (843 acres) for a total disturbance of approximately 864 acres, which is approximately 14 percent of the CESA. Cumulative impacts to recreation from past, present, and RFFAs in combination with the Proposed Action would be short-term, except for mining features that are not reclaimed, such as open pits. Transmission lines and above ground utilities would result in long-term visual impacts to recreation resources. Impacts from past, present, and RFFAs would include restricted access to recreation areas, displacement of recreationists to surrounding areas, potential increase in the population of recreationists, and impacts to the recreation setting. The Proposed Action would restrict access to areas that are fenced for active exploration operations, including all proposed new access roads that would be fenced for restricted access during Project operations. All areas of surface disturbance would be reclaimed concurrently, except for the new road for access to the staging area/underground portal, which would be considered the main entrance road to the Project Area after construction and would remain as a post-closure access road until continued reclamation and monitoring and underground exploration has been completed, which would be completed and remaining surface disturbance reclaimed within five years from Project implementation. Pre-existing roads would be maintained per existing conditions and would not be reclaimed as they represent pre-existing disturbance and would continue to be used in the future as they are currently. These unreclaimed road features would present increased opportunities for access to dispersed recreation in the CESA. Some recreationists may be displaced to surrounding areas during mining operations with temporary access restrictions in place, and the recreation setting may be impacted; however, there is already a significant amount of disturbance affecting recreation, such as the American Girl Mine pit, and after reclamation occurs, dispersed recreation would return to near pre-Project conditions. The Proposed Action in combination with the past, present, and RFFAs does not significantly contribute to the percentage of surface disturbance within the CESA; cumulative impacts would be negligible during Project operations and after reclamation occurs and would be short-term and localized.

No Action Alternative

Under the No Action Alternative, the proposed Oro Cruz exploration activities would not be approved and the associated impacts to recreation would not occur. Overall, cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur and thus would not additionally impact recreation. There would be no cumulative impacts beyond those currently occurring from past, present, and RFFAs.

3.18 Soils

3.18.1 Initial Study Determination (CEQA)

Table 3-24 provides impact determinations of the Project on geology and soils.

Table 3-24 Geology and Soils Environmental Checklist

Geology and Soils Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Geology and Soils Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				
	2) Strong Seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	3) Seismic-related ground failure, including liquefaction and seiche/tsunami?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	4) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.2 Affected Environment

The area of analysis for soils is the Project Area, located in the Lower Colorado Desert Major Land Resource Area (MLRA) within the Cargo Muchacho Mountain Range. Landforms in the MLRA are mountains, alluvial landforms including alluvial fans, fan remnants, and valleys, and internally drained basins including dry lakes and lake terraces. Average winter temperatures (December through February) are approximately 58 °F and the annual average mean precipitation for the area of analysis is 0.32 inches (WRCC 2021). Tumco Wash is an ephemeral stream within the area of analysis (**Figure 3-7**) and is the primary source of water (FWS 2019). The Cargo Muchacho Mountain Range is comprised predominately of Jurassic metavolcaniclastic rocks of the Tumco Formation, now present as well-foliated amphibolite-facies gneiss and schist (Tetra Tech 2011). Mesozoic biotite granite and associated pegmatite dikes cut the Tumco Formation and cut Mesozoic hornblende-biotite quartz monzonite. The granite and monzonite form large intrusive bodies in the range. The principal structural fabric in the range is west-northwest. Low-angle faults are cut by northwest trending faults. The Oro Cruz mineral deposit is believed to be a detachment-fault-related gold deposit consisting of replacement mineralization along a low-angle detachment fault related to regional extensional fault systems. Mineralization is hosted predominantly within or along the boundaries the Tumco Formation. Mesothermal mineralization occurs in multiple brown to brownish gray siliceous zones containing hematite, magnetite, quartz, mica, feldspar, chlorite, and copper oxides. Native gold containing very low silver is associated with iron and copper oxides. Surficial deposits include alluvial fan deposits and alluvial and lacustrine deposits below the valley floors; however, surficial deposits have not been mapped within the area of analysis (Stantec 2021a). Dominant soil orders are Entisols and Aridisols with an extremely aridic soil moisture regime (NRCS 2006). Soils within the area of analysis have not been mapped in detail by the US Department of Agriculture (USDA) Natural Resource

Conservation Service (NRCS) but are covered by the generalized STATSGO2 dataset (Soil Survey Staff 2022), as shown in **Table 3-25** and on **Figure 3-7**.

Table 3-25 STATSGO2 Soil Mapping Units Within the Area of Analysis

Map Unit Symbol	Map Unit Name	Acres in Area of Analysis	Percent of Area of Analysis
s991	Myoma-Carsitas-Carrizo	114.9	18
s1126	Tecopa-Rock outcrop-Lithic Torriorthents	511.4	82
Total		626.3	100

Source: Soil Survey Staff 2022

Soils in the area of analysis are primarily developed from weathered granitic rock and schistose rock substrates. The soils consist of gravelly sands with large amounts of cobble, rock, and boulders. Hill slopes are steep and almost entirely covered in large, weathered rock (Stantec 2021b). Soils are a product of the mechanical weathering process in this arid climate and are generally composed of coarse sands, gravel, and cobbles with little profile development. Soils vary from rock outcrops and a thin residual veneer of in-place rock materials on mountain ridges and slopes, to deep, coarse, alluvial material in washes and outwash fans. Old piedmont surfaces, such as desert pavement, have developed a characteristic type of rock surface underlain by vesicular and saline subsoils peculiar to this desert region. Rock outcrops on peaks, ridges, and knobs occur throughout the area. Cobbles and rock fragments are common on the ground surface and form part of the weathered desert pavement on stable bajadas (Dycker & Associates, Inc. 1995).

Myoma-Carsitas-Carrizo (Map Unit s991)

Myoma

The soil series Myoma is a light olive gray, moderately alkaline fine and very fine sands to a depth of approximately 31 inches, below which soils become strongly alkaline very fine sands. These soils are located at elevations of 200 feet below sea level to 1,800 feet AMSL and are nearly level to low rolling hills. Myoma soils are somewhat excessively drained with very slow runoff and rapid permeability (USDA 2015a).

Carsitas

The soil series Carsitas is a light olive gray color consisting of gravelly sands to a depth of 10 inches transitioning to gravelly coarse sands below that. Carsitas soils are somewhat excessively drained soils with negligible to low runoff and high saturated hydraulic conductivity. Soils were formed in alluvium from granitoid and/or gneissic rocks. These soils are on alluvial fans, fan aprons, valley fills and in drainageways. They are located at elevations ranging from 220 feet below sea level to 2,625 feet AMSL (USDA 2015b).

Carrizo

The soil series Carrizo is a pale brown color consisting of extremely gravelly sand to a depth of two inches transitioning to a stratified extremely gravelly and very gravelly coarse sand. Carrizo soils are excessively drained soils with negligible to low runoff and high saturated hydraulic conductivity. They are found on flood plains, fan piedmonts, and bolson floors. They are located at elevations ranging from 270 feet below sea level to 2,600 feet AMSL (USDA 2013).

Tecopa-Rock outcrop-Lithic Torriorthents (Map Unit s1126)

Tecopa

The soil series Tecopa is a pale to very pale brown color consisting of very gravelly sandy loams to a depth of eight inches where a restrictive layer of quartzite is met. These soils are very shallow with depths ranging from two to 10 inches. The Tecopa series is well drained with medium to rapid runoff and moderate permeability. They are found in elevations ranging from 1,500 to 5,000 feet AMSL (USDA 2015c).

Rock outcrop

Rock outcrops are classified as miscellaneous land types with little or no identifiable soils and are unable to support vegetation without major reclamation. Rock outcrops typically occur on mountain slopes and ridgetops at elevations ranging from 4,000 to 9,000 feet AMSL (NRCS 1982).

Lithic Torriorthents

Lithic Torriorthent soils have a lithic contact that is within approximately 20 inches of the surface and commonly is at a depth of less than approximately 10 inches. Their moisture-storage capacity is low, and they are known to occur mostly in association with soils that have more moisture available to plants (NRCS 1999).

3.18.3 Environmental Impacts (NEPA) – Proposed Action

The surface disturbance as a result of the Proposed Action would be created incrementally and could occur in either of the soil types found within the area of analysis. Soils within the area of analysis have a low erosional hazard from wind and water. The Myoma-Carsitas-Carrizo soils consist of thicker units of finer soils, which have excessive drainage causing for greater mineral precipitates and decreasing the quality of soil for vegetation to develop. The Tecopa-Rock outcrop-Lithic Torriorthents soil unit consists of shallow soils and rock outcrops, which reduces the potential for vegetation and increases potential for wind erosion. Although the Myoma-Carsitas-Carrizo soils have an increased potential for mineral precipitates than the other soil associations within the area of analysis, the minimal amount of meteoric and surface water through the area of analysis reduces the amount of mineral precipitates and the potential for soil entrainment. With an average winter temperature above 32°F, the potential for freeze-thaw fractures in rock outcrops and soils is reduced; thus, reducing the potential for soil erosion.

Under the Proposed Action, SMP would implement erosion PDFs, including, but not limited to: specific prohibitions, effluent limitations, potential contaminant source identification, practices to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general stormwater BMPs, training, record keeping, and sampling procedures (refer to **Appendix F** for additional discussion of PDFs). SMP would operate under a monitoring program that would be developed for BLM approval under the Proposed Action. Material stockpiling is not anticipated and would be kept as temporary storage during construction, if necessary. The topography within the area of analysis and the proposed design of the access roads and drill pads reduces the potential for stormwater runoff and sediment erosion (SMP 2021).

The Reclamation Plan (Sespe 2022) conforms with Section 2712 of SMARA, assuring that the Proposed Action would prevent or minimize adverse environmental impacts, and mined lands would be reclaimed to a usable condition that is readily adaptable for alternative uses at the end of the Project. Roads not needed for post-closure access would be reclaimed following the completion of exploration activities, and reclaimed areas would be revegetated with a BLM-approved seed mix (SMP 2021). As a result of surface-disturbing activities under the Proposed Action, and with the implementation of the PDFs (**Appendix F**), impacts to soils are anticipated to be minor, short-term, and localized.

3.18.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. No impacts to soils are anticipated under the No Action Alternative except for those occurring under existing conditions.

3.18.5 Impact Analysis (CEQA)

As outlined in the Reclamation Plan (Sespe 2022), California SMARA regulations, specifically Section 3711, require the salvage of topsoil and other suitable growth media (subsoil) prior to mining activities, and redistribution in areas to be revegetated. SMARA Section 3705 also requires soil analysis to determine if the growth media in revegetation areas consists of native topsoil and is otherwise adequate to support successful revegetation. Although the potential to use topsoil/subsoil from the Project Area is constrained by the limited development of the soil profiles (i.e., Project would disturb an estimated 20.54 acres total), topsoil and subsoil that is feasible to salvage would initially be scraped off the drill pads and new access road areas and stored along the edges of the pads/roads in small stockpiles and/or berms in accordance with Section 3711. The topsoil and subsoil would be salvaged and stored through the duration of Project activities, and then used as backfill for reclamation activities once drilling is complete and equipment demobilization occurs. Further detail related to topsoil and subsoil storage is available in the Reclamation Plan (Sespe 2022), which is on file with Imperial County (Reclamation Plan #21-0001).

- a) *Would the Project directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:*
- 1) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;*
 - 2) *Strong Seismic ground shaking;*
 - 3) *Seismic-related ground failure, including liquefaction and seiche/tsunami; and,*
 - 4) *Landslides?*

Less Than Significant Impact: No, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death due to earthquakes and/or slope instability. See descriptions below.

Fault Rupture: No, the proposed Project would not significantly cause a substantial adverse impact, either directly or indirectly, involving the rupture of an earthquake fault mapped as part of an Alquist-Priolo Earthquake Fault Zone (APZ). Per the California Department of Conservation's (DOC) California Earthquake Hazards Zone Application (EQ Zapp), the Project site does not fall within a currently designated California Geological Survey (CGS) Earthquake Fault Rupture Hazard ("Alquist-Priolo") Zone, nor is it located within a fault-rupture hazard zone. Per the DOC, the closest mapped DOC Alquist-Priolo Zone to the Project area is the "Brawley Seismic Zone" located approximately 30 miles away to the west.

Additionally, per the Imperial County General Plan (Imperial County 2015), specifically Figure 1 (Seismic Activity in Imperial County) within the Seismic and Public Safety Element and Figure 7 (Seismic Hazards) within the Conservation and Open Space Element, the closest shown fault extension is the "Algodones Fault" line located approximately five miles to the southwest. Furthermore, Figure 7 (Seismic Hazards) within the Conservation and Open Space Element notes that the "peak horizontal ground acceleration (the fastest measured change in speed, for a particle at ground level that is moving horizontally due to an earthquake) with a 10 percent probability of exceedance in 50 years" within the Project Area is designated as between 8 percent to 10 percent g (g – acceleration of gravity), which are the lowest seismic risk classifications show on Figure 7 of the Imperial County General Plan – Conservation and Open Space Element (Imperial County 2015).

Because the Project site is not located within or near an APZ or other active fault, there is little potential for the occurrence of surface fault rupture. Because the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), no significant slopes would be created. The Project also does not involve the

construction of any permanent buildings or significant aboveground structures, and therefore the potential risk to onsite employees and contractors during major seismic events is considered low. As a result, the Project would not directly or indirectly cause adverse effects, including the risk of loss, injury, or death, as a result of fault rupture, and Project impacts would be less than significant.

Seismic Ground Shaking: No, the Project would not cause a substantial adverse impact, either directly or indirectly, from strong seismic ground shaking. As described under CEQA Criteria a)1) above, the Project site is not located within a mapped earthquake hazard zone (closest DOC-designated APZ fault zone is located approximately 30 miles away, and the County General Plan “Algodones Fault” line is approximately four miles away). Additionally, the Imperial County General Plan has designated the Project Area as having the lowest “peak horizontal ground acceleration” of approximately 8 percent to 10 percent acceleration of gravity.

Because the Project site is not located within or near an active fault zone, ground shaking during an earthquake would not present a significant risk or create slope instability. Because the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), no significant slopes or buildings/structures would be created, and therefore the potential risk to onsite employees and contractors during major seismic events is considered low. As a result, the Project would have less than significant impacts related to strong seismic ground shaking resulting in a risk of loss, injury, or death.

Ground Failure/Liquefaction: No, the Project would not cause a substantial adverse impact, directly or indirectly, from seismic-related ground failure, including liquefaction. As discussed above, the Project site is not located within a mapped earthquake hazard zone. Additionally, per the EQ Zapp, neither the Project site nor surrounding areas are located within a designated CGS Landslide Zone or CGS Liquefaction Zone.

As discussed above, historical groundwater elevations within the Project Area vary greatly, ranging from as deep as 100-feet AMSL up to approximately 10- to 20-feet AMSL according to previous hydrology and soils analysis in the vicinity (Coes et al. 2015). In portions of the Project Area where groundwater was found close to the native ground surface, there is a potential for liquefaction or ground failure to occur during strong seismic shaking events. However, as discussed above, the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), and no permanent slopes or structures/buildings that would be susceptible to ground failure/liquefaction would be constructed onsite. As such, the potential for ground failure or liquefaction at the Project site with the potential to risk loss, injury, or death during major seismic events is considered low. Therefore, potential Project impacts related to seismic-related ground failure, including liquefaction, are less than significant, with no mitigation required.

Landslides: See responses to CEQA Criteria a)1), a)2) and a)3) above. Per the EQ Zapp, neither the Project site nor surrounding areas are located within a designated CGS Landslide.

The Project site is a relatively flat area with no major manmade landforms or areas with landslide potential as a result of the historical mining activities. Because the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), no significant slopes would be created, nor would any significant recontouring be required. Similarly, since there would be no mining spoils associated with the drilling campaign, other than nominal quantities of drill cuttings, there would be no waste piles that would need to be knocked down, or re-sloped. Following abandonment of the exploratory boreholes, any remaining drill cuttings would be spread out on the drill pad surfaces and reseeded in accordance with the revegetation plan provided herein, which would further ensure slope post-Project stability.

Where needed, SMP would flatten all slopes and floors using mobile equipment, to ensure no slopes exceed a 2H:1V (horizontal to vertical) angle in accordance with SMARA performance standards. Proposed

revegetation in applicable portions of the Project Area would also help further stabilize any regraded areas/slopes and prevent erosion once roots are established. SMP would maintain onsite slopes as needed in order to limit potential impacts from erosion. For these reasons, the Project would not result in potential impacts from slopes and landslides, and less than significant impacts with no further mitigation would result.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact: No, the Project would not result in substantial soil erosion or the loss of topsoil. Much of the Project Area has been disturbed due to historical mining operations. As such, it is assumed little topsoil/subsoil remains within the Project Area. Nevertheless, in accordance with SMARA, prior to grading/ground disturbance, topsoil and subsoil would initially be scraped off the drill pads and new access road areas and stored along the edges of the pads/roads in small stockpiles and/or berms. The topsoil and subsoil would be salvaged and stored through the duration of Project exploration activities, and then used as backfill during site reclamation once drilling is complete and equipment demobilization occurs. Salvaged topsoil/subsoil from the Project Area would also be used as a growth medium for revegetation. Once the drilling campaign is complete, the stored topsoil/subsoil would be spread out and reseeded.

Additionally, the drilling campaign would utilize mud sumps to house the drilling fluids. As managed for the topsoil/subsoil, excavated spoils would also be stored along the edges of the pads and then backfilled into the excavated pits once drilling is complete and equipment demobilization occurs. These backfilled materials and any topsoil/subsoil that is salvaged would then be reseeded as part of the overall revegetation efforts.

Due to the existing topography and the proposed design of the access roads and drill pads, stormwater runoff and sediment erosion from the Project Area is considered unlikely. As such, the chances of discharge, erosion, and/or sedimentation from the Project Area that could adversely impact adjacent properties is considered very low. As outlined in Reclamation Plan (Sespe 2022) and the Plan (**Appendix A**), SMP would implement BMPs (e.g., berms, sandbags, fiber rolls, or silt fencing, etc.) for erosion and sediment control measures to ensure sediment does not inadvertently erode into adjacent areas during a large storm or high wind events. The effectiveness of erosion control measures would be monitored throughout the duration of the Project. SMP would ensure erosion, sediment transport and windblown dust are controlled by implementation of the storm water BMPs, compliance with ICAPCD applicable rules and regulations, and site-specific inspections (as needed) conducted by the operator.

As a result, through the salvage and proper storage of any remaining onsite topsoil/subsoil, and with the implementation of site-specific BMPs and ongoing stabilization of the site slopes, there would be less than significant Project impacts related to soil erosion and loss of topsoil.

c) Would the Project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact: No, the Project would not be located on or result in unstable geologic deposits or soils such that on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would potentially occur. As discussed under CEQA Criteria a) above, per the EQ Zapp, neither the Project site nor surrounding areas are located within a designated CGS Landslide Zone. Additionally, the DOC's (2022) landslide inventory database does not list active or dormant landslides within the Project Area. The Imperial County General Plan (Imperial County 2015), specifically Figure 2 (Landslide Activity) within the Seismic and Public Safety Element, also shows that the Project is not within a designated landslide potential area. Because the Project would be located outside of a landslide zone, and through continued adherence to the required 2H:1V slope design per County and SMARA standards, impacts related to seismic-related ground failure, including liquefaction, would be less than significant. Therefore, given that

the proposed Project and related exploration structures would not be situated in areas known to have unstable ground conditions, and would not otherwise create such conditions, there would be less than significant impacts related to unstable geologic units and soil.

- d) Would the Project be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?*

No Impact: No, the Project would not be located on expansive soil as defined in as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property. As discussed above, soils in the Project Area are generally developed from weathered granitic rock and schistose rock substrates. The soils consist of extremely gravelly sands or gravelly loams with up to 90% coarse fragments. Soils within the Project Area are of two general types based on substrate and topographic position: residual soil material weathered in place on slopes and ridges; and deeper alluvial soils transported by water and gravity to toe slopes, washes and outwash fans. The soils within the Project Area also contain large areas of disturbance from previous mining and reclamation activities. None of the soils found within the Project Area are subject to expansion when wetted. Additionally, no permanent or substantial above ground buildings or structures, or slopes, that could be susceptible to expansive soils would be constructed as part of the Project. As such, the Project presents no risk to life or property from expansive soils, resulting in no impacts.

- e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact: No, the Project does not have soils incapable of supporting the use or installation of septic tanks or alternative wastewater disposal systems. The Project would not involve the installation or use of septic tanks or alternative wastewater treatment systems. Portable toilets would be provided onsite as needed. Therefore, the Project would have no new impacts related to septic tanks or alternative wastewater disposal systems.

- f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less Than Significant Impact: No, the Project would not directly or indirectly destroy a unique paleontological resource or unique geologic features. As discussed in **Section 3.8** above, Project construction and operations activities would not involve significant excavation or ground disturbance into previously undisturbed soils. The Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), and most Project structures would be constructed at-grade in areas previous disturbed by historical mining activities. Because these activities would occur in areas that are not considered conducive to fossil preservation, the potential to encounter paleontological resources is unlikely. Moreover, construction of the drill site sumps is expected to be the Project aspect that requires the most below ground disturbance, and these sumps would be approximately 12-feet by 12-feet and 6 feet deep; within Holocene-age (recent) alluvium, which would not contain any fossil material. Other than minimal regrading to prepare the Oro Cruz Mine Portal, access roads, drill pads/sumps, and ancillary facilities, the Project activities do not involve ground disturbance in geologic materials that have any potential to contain fossils. Therefore, the Project does not have the potential to have a significant impact on these resources.

In accordance with the avoidance and control measures described in **Appendix F**, all Project surface-disturbing activity would be limited to the land area essential for the Project. In determining these limits, consideration would be given to topography, public health and safety, placement of facilities, and other limiting factors. Work area boundaries would be appropriately marked to minimize disturbance. All

workers would strictly limit their activities and vehicles to the areas marked. All workers would be trained to recognize work area markers and to understand equipment movement restrictions.

Additionally, although no adverse impacts to unique paleontological resources or unique geologic features are anticipated, nonetheless there is always to potential for undiscovered cultural resources to be inadvertently discovered. Therefore, SMP would comply with applicable County requirements that grading work cease in the event that any cultural resources are identified during grading. As discussed in the Plan (SMP 2021) and the Reclamation Plan (Sespe 2022), all workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on distribution, general behavior and ecology, protection afforded by State and Federal endangered species acts (including prohibitions and penalties), and procedures for reporting encounters, and the importance of following the protection measures. If onsite employees or contractors encounter a potential cultural or paleontological resource, ground disturbing work would halt immediately within a 100-foot buffer of the resource encountered as a BLM-required mitigation measure (**Appendix F**), and an archaeologist would be called in to evaluate the find in accordance with the monitoring and inadvertent discovery plan in consultation with the BLM archaeologist.

Therefore, through compliance with applicable Imperial County requirements related to undiscovered paleontological resources, and implementation of the avoidance measures outlined in the Plan (SMP 2021) and Reclamation Plan (Sespe 2022), the Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, and impacts would be less than significant.

3.18.6 Cumulative Effects

The CESA boundary for soils includes the Project Area plus a one-mile buffer (**Figure 3-3**). This CESA was chosen as it is the geographic area to which cumulative impacts to soils would occur based on surface disturbance proposed under the Project. The CESA encompasses 6,260 acres.

Within this CESA, past and present disturbance, as detailed in **Table 3-26**, has resulted from the following activities: mineral development and exploration projects (796 acres); utilities, infrastructure, and public purpose projects (17 acres); roads (30 acres); and dispersed recreation.

Table 3-26 Past, Present, and RFFAs in the Soils CESA

Past, Present, and RFFAs, Disturbances and Projects		CESA
	CESA Acres	6,260
<u>Past Actions</u>		
Mineral Development and Exploration		
Sand and Gravel Operations, Materials Sites and Community Sand and Gravel Pits		272
Notices		17
Mining and Exploration Projects		507
	Past Actions Total Disturbance Acres	796
<u>Present Actions</u>		
Utilities, Infrastructure, and Public Purpose		
Power Lines		17
Roads and Railroads Present Actions		
Roads		30
	Present Actions Total Disturbance Acres	47
	Past and Present Total Disturbance Acres	843

Past, Present, and RFFAs, Disturbances and Projects	CESA
	13

Source: BLM 2022a-b

Of the 6,260 acres covered by the CESA, 843 acres of disturbance are associated with past and present which is a disturbance of approximately 13 percent of the CESA. There are no RFFAs within the CESA, other than the Proposed Action, which is analyzed for cumulative impacts in the following section.

Past mineral development and exploration activities within the Soils CESA have not all been actively reclaimed; however, natural reclamation of vegetation species has likely occurred at the site of past activities over time, which has resulted in various levels of revegetation, which is important for soil stability and erosion prevention. Impacts of past and present mineral development and exploration may be long-term since soil is physically removed and then replaced during reclamation. If an area is not reclaimed, or soils are not salvaged, existing soils may be buried. The primary effect of mining on soil resources is a temporary decrease in overall soil quality, reduction in soil production capabilities for vegetation and wildlife, potentially increased soil erosion, and subsequently, an increase in sediment in downstream surface waters.

Disturbance to soil resources associated with utility, infrastructure, and public purpose projects (such as powerlines) involves construction of access roads, as well as temporary staging areas, which leads to soil compaction and removal of vegetation.

Road construction has a long-term effect on soil resources. Effects from unimproved roads include compaction of the ground, burial of soils and altering water flow on the soil surface. State Routes are paved with asphalt or concrete, which permanently affects the soil in the area and increases runoff from the impermeable surface, which further has the potential to increase erosion of adjacent soils.

Dispersed recreation may occur within the CESA in the future, which would be considered an RFFA. Dispersed recreation may lead to potential increases in the risk of soil erosion due to surface use, depending on recreation location. Impacts from RFFAs would be similar to those stated for past and present actions.

Proposed Action

Approval of the Proposed Action would increase disturbance within the CESA by 20.54 acres in addition to disturbance associated with past, present, and RFFAs (843 acres) for a total disturbance of approximately 864 acres, which is approximately 14 percent of the CESA. The Proposed Action in combination with the past, present, and RFFAs does not significantly contribute to the percentage of surface disturbance within the CESA; cumulative impacts would be negligible during Project operations and after reclamation occurs and would be short-term and localized.

No Action Alternative

Under the No Action Alternative, the proposed Oro Cruz exploration activities would not be approved and the associated impacts to soils would not occur. Overall, cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur and thus would not additionally impact soils. There would be no cumulative impacts beyond those currently occurring from past, present, and RFFAs.

3.19 Travel and Transportation

3.19.1 Initial Study Determination (CEQA)

Table 3-27 provides the determination of Project impacts to transportation.

Table 3-27 Transportation Environmental Checklist

Transportation Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.19.2 Affected Environment

The area of analysis for travel and transportation is the Project Area. The road network in the area consists primarily of BLM-managed public access roads designated as part of the Northern and Eastern Colorado Desert Coordinated Management Plan. The majority of roads in the vicinity are unimproved two-track roadways with native surfaces (i.e., dirt and gravel roads and public access trails) within or adjacent to the area of analysis that are used by the public. The primary route of travel to access the area of analysis is Interstate 8 to Ogilby Road, then east on Gold Rock Ranch Road continuing on to BLM-designated access roads (**Figure 1-1**). Gold Rock Ranch Road allows primary access to the area of analysis and would not require improvement. Segments of existing BLM Route 670 that diverges from Gold Rock Ranch Road (which diverges east into BLM Route 669) would require improvement. There is existing access south of Gold Rock Ranch Road along Blythe Ogilby Road (via BLM Route 707), not requiring improvement, from which a new access road would need to be constructed heading north from BLM Route 707 to reach the southern portion of area of analysis, including the staging area and underground portal (BLM 2017; SMP 2021). In 2020, Annual Average Daily Traffic (AADT) on Blythe Ogilby Road from Interstate 8 was approximately 17,000 vehicles per day with the peak monthly ADT approaching 20,000 vehicles per day (Caltrans 2020).

3.19.3 Environmental Impacts (NEPA) – Proposed Action

Under the Proposed Action, access to the drill pad sites would be via existing roads (Blythe Ogilby Road and Gold Rock Ranch Road), new, and improved roadways and via helicopter from the Yuma Airport. Drilling equipment would be trucked to one of two truck unloading points at existing roads and then would be mobilized to the Drill Areas within the Project Area. Equipment would be unloaded from low boys onto the existing road at the unload points and no improvements would be needed to accommodate the unloading of equipment. The helicopter would be used to transport drilling equipment, water, fuel, and supplies to drill sites and conduct crew changes where necessary. Some drill sites may require access by helicopter where access by support trucks is not possible.

There are several existing access roads within the Project Area that would require improvement and some new access roads would need to be constructed. Approximately two miles of existing road would need to be improved and 6.2 miles of new temporary access roads would need to be constructed, dependent on the location and associated accessibility of the to-be-determined drill sites within each Drill Area. Most of the existing access roads requiring improvement are currently about six feet wide and would require an additional six feet of surface disturbance to widen. The new temporary access roads (locations to be determined

depending on exact locations of the proposed drill sites) would require a 12-foot width of disturbance. A 2.8-acre portal staging area would need to be constructed, and access to the Oro Cruz Mine Portal would require construction of 1.8 miles of a new 15-foot-wide road.

Access roads would be used strictly for Project support vehicles to access the exploration Drill Areas, and they would be signed as having limited access. Gold Rock Ranch Road is gated at its intersection with Tumco Wash, which would serve as the safety barrier to Drill Areas 2, 3, 4, 5, and 7. To restrict access to Drill Areas 1 and 6, barriers would be constructed from onsite material from areas disturbed to prevent unauthorized access. The proposed new access road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. A gate would be placed across the road accompanied by proper deterrence on either side of the gate (i.e., fence, berm, or large boulder). Safety barriers would be constructed at designated points along new access routes to prevent public access but would be removed during reclamation. Advanced notice of access restrictions would be posted by the BLM.

No maintenance is planned for improved existing roads during the active drilling period and reclamation would occur after the roads are no longer needed for operations.

Access roads would be used by up to two track-mounted drill rigs, a CAT D8 bulldozer, excavator, track hoe, and support vehicles. Two water trucks and five support vehicles per shift would be required to visit the drill sites each day. The helicopter would make up to 10 trips per day to required drill sites. AADT on Blythe Ogilby Road and access roads within the Project Area would temporarily increase as a result of the Proposed Action. Project personnel accessing the site would result in approximately 45 trips per day on BLM access roads within the area of analysis for drill crew members, Project employees, and water truck deliveries (Tupper 2022). Fuel deliveries would happen once every approximately five days. A maximum of 10 workers would be required on-site at the Project during operations, including for both above ground and underground proposed exploration operations. The drilling rig and other equipment proposed for operations would typically remain on-site during exploration. Water would be sourced offsite to the Project Area and to the underground exploration operations through Drill Area 1, resulting in up to an additional 14 round trips per day to account for water trucks. The additional traffic generated from the temporary operations of the Proposed Action would be negligible in terms of AADT increases on these roads. Monthly ADT would temporarily increase during each approximately two-week drilling campaign, but traffic levels would return to existing conditions following Project completion.

Under the Proposed Action, impacts to travel and transportation, including access and traffic, are anticipated to be negligible, short-term, and localized.

3.19.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. No impacts to travel and transportation are anticipated under the No Action Alternative except for those occurring under existing conditions.

3.19.5 Impact Analysis (CEQA)

The Project would require use of existing and construction of new access roads to facilitate exploration operations. Reclamation and BMPs for such are further discussed in the Reclamation Plan (Sespe 2022) in addition to the analysis provided below.

Vehicle Trips/Miles Travelled: In 2013, the California legislature enacted SB 743, which required, among other things, that the State of California Governor’s Office of Planning and Research (OPR) adopt new guidelines for assessing transportation impacts, specifically that traffic congestion would no longer be considered in assessing a significant impact under CEQA. Specifically, CEQA lead agencies must now analyze a project’s CEQA transportation impacts using vehicle miles travelled (VMT) metric. The OPR’s

Technical Advisory (OPR 2018) document provides guidance for evaluating this new transportation impact method. Therefore, the Project’s potential transportation and VMT impacts are presented and quantified utilizing the OPR’s Technical Advisory methods under CEQA Criteria b) below.

The Project’s total daily heavy-duty and light-duty vehicle trips and associated vehicle miles travelled (VMT) was estimated as part of the air emissions and air quality analysis. Vehicle trips and VMT were quantified for both the Project construction and operational phases, based upon the proposed activities that would require vehicle operations. Based upon the air emissions inventory conducted for the Project, **Table 3-28** below summarizes the estimated daily vehicle one-way trips and associate VMT’s. Note these estimates conservatively assume that all Project activities (i.e., road construction, drill site construction, exploratory drilling, and laydown yard operations) would be occurring simultaneously on a given operational day.

Table 3-28 Estimated Project Vehicle Trips & Vehicle Miles Travelled

Project Operations	One-Way Trips per Day	VMTs per Day
Road Construction	12	30
Drill Site Construction	2	15
Exploratory Drilling	38	270
Laydown Yard Emissions	12	180
Totals:	64	495

OPR’s guidance and Section 15064.3 of the CEQA Guidelines states that “... ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project. Here, the term ‘automobile’ refers to on-road passenger vehicles, specifically cars and light trucks.” (OPR 2018). For this reason, generally heavy-duty trucks should be excluded from a project’s VMT evaluation; however, conservatively the Project’s heavy-duty truck activity are included within the daily VMTs shown in **Table 3-28** above. Specifically, the Federal Highway Administration’s (FHWA’s) largest passenger car equivalence (PCE) factor of 4 automobile trips per 1 truck trip was utilized to quantified VMT’s from heavy-duty truck activity.

- a) *Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

No Impact: No, the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. As discussed above, existing access roads would be used to the extent possible but some new access roads would be required across BLM land (**Figure 2-1**). However, the access routes that would be used are pre-existing BLM-authorized routes, and the proposed drill sites and new access roads would be mostly located within previously mined and disturbed areas. I-8, Blythe Ogilby Road, and Gold Rock Ranch Road are the primary regional County roadways that would be used for access; however, no improvements would be required along these roads as they have sufficient capacity and design to safely accommodate Project vehicles and equipment. Additionally, prior to initiating onsite construction activities, SMP would be required to obtain a temporary access encroachment permit through the Imperial County Public Works Department. As part of the encroachment permit, SMP would prepare and implement a temporary traffic control plan to ensure that vehicles and equipment would safely ingress/egress from the Project Area onto public roadways.

The exploration drilling aspects of the Project would require approximately 13,820-linear-feet (2.6 miles) of existing road improvements, and approximately 32,740-linear-feet (6.2 miles) of new temporary access road construction; however, these new access roads would be used strictly for Project support vehicles to access the exploration Drill Areas (i.e., public access would be prohibited). Signage would be installed at appropriate ingress/egress points clearly describing the roads as having limited access.

Access to the Oro Cruz Mine Portal would also require the construction of 9,640-linear-feet (1.8 miles) of a new 15-foot-wide road. While this road would remain as an access road to support the site post-closure during reclamation, monitoring, and underground exploration activities, the road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. To ensure the public does not inadvertently access this roadway, a gate would be placed across the road accompanied by proper deterrence on either side of the gate (i.e., fence, berm, or large boulder).

As summarized above, any new access roads constructed as part of the Project would be used strictly for Project support vehicles to access the exploration Drill Areas. Signage would be installed at appropriate ingress/egress points clearly describing the roads as having limited access. The number of vehicles required to travel to and from the Project site during the 12- to 24-month exploratory period would be minimal (which would include light-duty employee and contractor vehicles). Additionally, transport of the larger drilling rigs and ancillary equipment to the Project site via public roadways using a lowboy would occur infrequently (i.e., estimate prior to drilling of the initial exploratory hole, and demobilization once exploration operations are complete). This minimal number of vehicles and trucks entering or leaving the Project area would not adversely impact the County's circulation systems, nor would it conflict with applicable County transit programs or policies. Additionally, a temporary traffic control plan would be implemented to ensure that vehicles and equipment would safely ingress/egress from the Project Area.

As a result, the Project would not impact any County program, plan, ordinance, or policy related to transit, roadway, bicycle, or pedestrian facilities in the vicinity of the Project, and no impacts would occur.

b) Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impacts: The proposed Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b). CEQA Guidelines Section 15064.3(b) requires that a project's potential transportation impacts be evaluated using the "vehicle miles traveled (VMT)" metric, which refers to the amount and distance of automobile travel attributable to a project on a daily basis. To address the requirements of CEQA Guidelines Section 15064.3(b), in 2018 the Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018), which states that "Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant vehicle miles travelled (VMT) impact." As discussed above, the maximum number of onsite employees and contractors travelling to and from the Project Area in a given day is estimated to be up to 13 total (which would result in a maximum of approximately 64 trips per day). In addition to light-duty employee and contractor vehicles, larger heavy-duty trucks would also be utilized intermittently to deliver materials and equipment to the Project Area; however, OPR's guidance and Section 15064.3 of the CEQA Guidelines states that "... 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Here, the term 'automobile' refers to on-road passenger vehicles, specifically cars and light trucks." (OPR 2018). As such, Project trips involving heavy-duty trucks have been excluded from this VMT evaluation.

As stated above, the Project is estimated to generate a maximum of 64 new vehicle trips per day as a result of employees and contractors traveling to and from the Project Area to conduct exploration activities. The Project's maximum daily vehicle trip could be well below OPR's screening threshold of 110 trips per day. Therefore, the proposed Project would result in no impact related to VMT and would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(3), and no impacts would occur.

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact: No, the proposed Project would not substantially increase hazards due to a geometric design feature or incompatible uses. Conversely, by improving many of the existing BLM access roads within the

Project Area, the Project would improve vehicle safety within the area. Additionally, installation of other safety features (e.g., berms, fences, signs, etc.) throughout the site would further ensure the public or other recreational vehicles to not inadvertently access incompatible or unsafe areas. See response to CEQA Criteria a) above for additional detail.

As discussed above, road improvements would occur within the Project Area, and there are no proposed changes to the design or layout of the public ingress/egress points connecting to public roadways, specifically Gold Ranch Road and Ogilby Road/SR-34. As shown on **Figure 2-1**, SMP's proposed access road improvements are not located adjacent to a public roadway, rail crossing, or pedestrian/vehicle area, and none of the proposed Project activities would impact driver safety or visibility. For these reasons, the Project would not result in alterations to nearby roadways, installation or expansion of new driveways or geometric design features, or creation of incompatible uses along these roadways, and no impacts would occur.

d) *Would the Project result in inadequate emergency access?*

No Impact: No, the proposed Project would not result in inadequate emergency access. As discussed above, other than construction of new and improved internal access roads on BLM lands within the Project Area, there are no proposed design changes to the existing ingress/egress points connecting to Gold Ranch Road and Ogilby Road/SR-34. The Project would not result in alterations to existing adjacent roadways, parking areas, etc. Project equipment and vehicles would be parked off public roads within designated onsite parking areas and would not block emergency access routes. Additionally, no road closures are proposed during Project exploration or reclamation activities. Furthermore, SMP would coordinate with local law enforcement and fire departments to provide 24-hour access as needed for emergency response. As a result, the proposed Project would not impede existing emergency access in the Project vicinity, and no impacts would occur.

3.20 *Vegetation, including Noxious and Non-Native Invasive Species*

3.20.1 **Initial Study Determination (CEQA)**

The IS determination pursuant to CEQA for vegetation is included under **Section 3.18.1** as the IS analyzes all biological resources within one category.

3.20.2 **Affected Environment**

The area of analysis for vegetation, including noxious and non-native invasive species, is the Project Area, including the temporary portal access road, plus a 500-foot buffer (**Figure 3-8**). Vegetation habitat mapping was conducted prior to conducting field surveys using spatial analysis software to estimate the type and extent of vegetation habitat within the area of analysis. Biological surveys were conducted in March 2021, including vegetation surveys, and additional detail on the methods used to determine vegetation habitat and the survey results is further discussed in Biological Resource Technical Report and Assessment Oro Cruz Exploration Project (WestLand 2021).

Vegetation in the area of analysis consists of low desert scrub, typical of the region in southeastern California, and is sparse in the upland and xeroriparian habitats. The uplands are dominated by very low-density shrub communities of creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*). There are also large portions of the area of analysis with disturbed habitats that are dominated by non-native species, including tamarisk and yellowdome (*Trichoptilium incisum*). The xeroriparian habitat is generally the same as the uplands habitat but also includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). During pedestrian surveys in March 2021, three California Native Plant Society vegetation categories were identified within the area of analysis (**Figure 3-8**), including black mustard (*Brassica nigra*) and other

mustards semi-natural stands, blue palo verde (*Parkinsonia florida*)-ironwood (*Olneya tesota*) alliance, and creosote-brittlebush alliance (WestLand 2021). These vegetation categories were mapped using GIS software to estimate the approximate horizontal space occupied by the three categories and provide nomenclatural frameworks for characterizing these complex vegetative realities. Additional detail on each vegetation category is provided below:

Black mustard and other mustards semi-natural stands

This vegetation category represents approximately 18 percent of the area of analysis and 24 percent of the Project Area and is associated with disturbed and barren areas. Black mustard was not observed in the area of analysis, but a closely related non-native mustard, Saharan mustard (*Brassica tourneforti*) was present in both naturally disturbed areas (i.e., wash scour) and human-disturbed areas (roads, camp sites, waste rock piles). This community is not classified as sensitive by the CDFW (CDFW 2020a).

Blue palo verde-ironwood alliance

This vegetation category represents approximately two percent of both the area of analysis and Project Area and is primarily restricted to xeroriparian areas (i.e., washes, drainages, and narrow canyons). Commonly occurring species include blue palo verde, ironwood, sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo, and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the CDFW (CDFW 2020a).

Creosote-brittlebush alliance

This vegetation category represents approximately 79 percent of the area of analysis and 74 percent of the Project Area and occurs in a variety of topographic settings. Commonly occurring species include creosote, brittlebush, ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobrush (*Ambrosia dumosa*). This natural community is also classified as sensitive by the CDFW (CDFW 2020a).

Noxious and Invasive, Non-Native Species

No noxious and invasive non-native weed species, as identified and managed under Section 52332 of the California Food and Agriculture Code and the California Noxious Weeds list maintained by the California Department of Food and Agriculture (CDFA 2021), were observed within the area of analysis. Saharan mustard (*Brassica tourneforti*), a Class "C" Rated Weed under CCR 4500 Noxious Weeds List (CDFA 2021), was observed within the area of analysis.

Special Status Plant Species

No BLM special status species were found within the Project Area. A CEQA special status species, Pink fairyduster (*Calliandra eriophylla*), was identified as historically and presently occurring in low densities within the Project Area within the desktop delineated potential microphyll woodland area of the *Parkinsonia Florida—Olneya Tesota* vegetation category (**Figure 3-8**) (WestLand 2021).

Two BLM sensitive plant species were identified as having potential habitat within the area of analysis, with a low potential of occurrence. Wiggin's croton (*Croton wigginsii*) is commonly found in sandy areas in desert dunes and Sonoran desert scrub. A small area of suitable sandy habitat was identified during the March 2021 baseline surveys in Sonoran desert scrub on the western edge of the area of analysis, but outside the Project Area. Sandfood (*Pholisma sonorae*) is commonly found in sandy soils, sand dunes, and other sandy areas and is considered a root parasite of desert shrubs. Small pockets of suitable sandy soils were identified during the March 2021 baseline surveys in the western side of the area of analysis, and burrobrush (*Ambrosia dumosa*), a suitable host plant, was identified as occurring within the area of analysis, both outside of the Project Area (WestLand 2021). Neither Wiggin's croton nor Sandfood were observed during the March 2021 baseline surveys within the area of analysis. Both plant species are designated as special status species that are known to occur on BLM lands managed by the El Centro Field Office (BLM 2015).

3.20.3 Environmental Impacts (NEPA) – Proposed Action

Under the Proposed Action, surface disturbance would occur from the construction of a staging area, exploration roads (including improvements to existing roads), sumps, and drill pads. Surface disturbance would directly impact vegetation communities within the Project Area from the removal of vegetation, which could increase soil erosion and the possibility of spreading noxious and invasive non-native species. Per the PDFs outlined in **Appendix F**, SMP would revegetate disturbed areas with native seed mixtures approved by the BLM. A diverse, native plant community would be targeted, and the seed mix list would be reviewed prior to revegetation activities initiating. With implementation of these PDFs and CMAs, impacts to vegetation communities as a result of 20.54 acres of surface disturbance are anticipated to be minor, short-term, and localized.

Impacts on vegetation resources from noxious and invasive, non-native species may include the establishment and spread of these species during exploration activities or reclamation. The Proposed Action would create 20.54 acres of surface disturbance, which could allow for weeds to invade new areas within the Project Area. All seed mixes and natural erosion products used for reclamation would be certified weed-free. Weed control practices would be implemented as necessary in coordination with the BLM, and non-native invasive plants would be removed manually, as specified in the Reclamation Plan (Sespe 2022). Additionally, CMA LUPA-BIO-10 would require implementation to be consistent with BLM state and national policies and guidance for integrated weed actions, which would include thoroughly washing vehicles prior to entering the Project site among other weed management measures described further for CMAs in **Appendix F**. Impacts from the Proposed Action on the spread and encroachment of noxious and invasive non-native species are expected to be negligible, short-term, and localized.

Impacts to special status plant species would include the disturbance of up to 20.54 acres of vegetation communities that may provide potential habitat for Wiggin’s croton and Sandfood. No BLM special status plant species have been identified within the Project Area, thus no direct impact to BLM sensitive plant species would occur from direct removal of individuals or populations. Direct impacts to the potentially occurring CEQA sensitive plant species could occur from the removal of up to 20.54 acres of potential habitat, as surface disturbance could occur at any location throughout the Project Area as exploration activities progress through the life of the Project. However, as outlined in the PDFs that would be implemented throughout the life of the Project (**Appendix F**), pre-construction vegetation surveys would be conducted to identify any occurrences of all special status and/or sensitive plant species prior to surface disturbance activities commencing in order to implement the appropriate fencing and avoidance measures. Reclamation would occur on proposed disturbances within special status plant species habitat, reducing long-term impacts from habitat removal. Should special status plant species be identified during Project activities, the BLM would require SMP to implement temporary barrier fencing around the individual plants for avoidance and to minimize impacts throughout the life of the Project. Additional CMAs would also be required to minimize impacts to special status species, including LUPA-BIO-7, LUPA-BIO-13, LUPA-BIO-PLANT-2, LUPA-BIO-SVF-6, LUPA-BIO-VEG-1, and LUPA-BIO-VEG-2, as included and described in **Appendix F**. Impacts to special status plants under the Proposed Action would be negligible, short-term, and localized.

3.20.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. As such, no impacts to vegetation, including spread of noxious and invasive non-native species, would occur under the No Action Alternative.

3.20.5 Impact Analysis (CEQA)

The impact analysis determination pursuant to CEQA for vegetation is included under **Section 3.18.5** as the IS analyzes all biological resources within one category.

3.20.6 Cumulative Effects

The CESA boundary for vegetation includes the Project Area plus a one-mile buffer (**Figure 3-3**). This CESA was chosen as it is the geographic area to which cumulative impacts to vegetation would occur based on surface disturbance and vegetation removal proposed under the Project. The CESA encompasses 6,260 acres.

Within this CESA, past and present disturbance, as detailed in **Table 3-29**, has resulted from the following activities: mineral development and exploration projects (796 acres); utilities, infrastructure, and public purpose projects (17 acres); roads (30 acres); and dispersed recreation.

Table 3-29 Past, Present, and RFFAs in the Vegetation CESA

Past, Present, and RFFAs, Disturbances and Projects		CESA
	CESA Acres	6,260
<u>Past Actions</u>		
Mineral Development and Exploration		
Sand and Gravel Operations, Materials Sites and Community Sand and Gravel Pits		272
Notices		17
Mining and Exploration Projects		507
Past Actions Total Disturbance Acres		796
<u>Present Actions</u>		
Utilities, Infrastructure, and Public Purpose		
Power Lines		17
Roads and Railroads Present Actions		
Roads		30
Present Actions Total Disturbance Acres		47
Past and Present Total Disturbance Acres		843
Percent of CESA		13

Source: BLM 2022a-b

Of the 6,260 acres covered by the CESA, 843 acres of disturbance are associated with past and present actions which is a disturbance of approximately 13 percent of the CESA. There are no RFFAs within the CESA, other than the Proposed Action, which is analyzed for cumulative impacts in the following section.

Impacts to vegetation species from mineral development and exploration activities in the CESA include vegetation removal. While some of these past projects have not been actively reclaimed, natural re-establishment of vegetation has occurred over time resulting in various levels of revegetation. Impacts from mineral development and exploration can be long-term. Re-establishment of vegetation would eventually occur on mining disturbances, whether through the revegetation measures required for specific projects or through natural revegetation.

Within the vegetation CESA, disturbance associated with utilities, infrastructure, public purpose projects included native vegetation removal during construction. After construction of utility and infrastructure

projects, access roads remain for maintenance, which creates a long-term impact to vegetation in the CESA. Disturbance associated with roads in the CESA has affected vegetation since the road area includes vegetation removal, and areas disturbed by vehicles are often slower to re-establish because the soils have been compacted.

Dispersed recreation may occur within this CESA in the future, which would be considered an RFFA. Impacts from RFFAs would be similar to those stated for past and present actions.

Proposed Action

Approval of the Proposed Action would increase disturbance within the CESA by 20.54 acres in addition to disturbance associated with past, present, and RFFAs (843 acres) for a total disturbance of approximately 864 acres, which is approximately 14 percent of the CESA. The Proposed Action in combination with the past, present, and RFFAs does not significantly contribute to the percentage of surface disturbance within the CESA. Considering past and present disturbance to vegetation within the CESA, combined with potential RFFAs of wildfires and continued dispersed recreation and combined with the Proposed Action, cumulative impacts to vegetation would be negligible to minor, short-term, and localized.

No Action Alternative

Under the No Action Alternative, the proposed Oro Cruz exploration activities would not be approved and the associated impacts to vegetation, including noxious and non-native invasive species, would not occur. Overall, cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur and thus would not additionally impact vegetation. There would be no cumulative impacts beyond those currently occurring from past, present, and RFFAs.

3.21 Visual Resources

3.21.1 Initial Study Determination (CEQA)

Table 3-30 provides impact determinations of the Project on aesthetics for criteria other than as provided in Public Resources Code Section 21099.

Table 3-30 Aesthetics Environmental Checklist

Aesthetics Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista or scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Aesthetics Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surrounding? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.21.2 Affected Environment

The area of analysis for visual resources is the Project Area and the viewshed of three Key Observation Points (KOPs) selected for analysis as areas representing the geographic region where the Project could potentially be visible by casual observers (**Figure 3-9**). Scenic quality is a measure of the visual appeal of a parcel of land, and Section 102(a)(8) of FLPMA placed an emphasis on the protection of the quality of scenic resources on public lands. Section 101(b) of the NEPA requires that measures be taken to ensure that aesthetically pleasing surroundings be retained for all Americans. Per BLM H-1601-1 Land Use Planning Handbook, the BLM manages resource uses and management activities consistent with Visual Resource Management (VRM) objectives established in the land use plan (BLM 2005). The VRM objectives designate classes for BLM-administered lands in order to identify and evaluate scenic values to determine the appropriate levels of management during land use planning. The BLM identifies four VRM Classes (I through IV) with specific management descriptions for each class, which represent the relative value of the visual resources. Classes I and II are the most valued, Class III represents a moderate value, and Class IV represents the least value. In addition, Class I is generally assigned to those areas where a management decision has been made previously to maintain a natural landscape. The DRECPLUPA (BLM 2016) assigned VRM classes ranging from Class I to Class IV to all BLM lands within the CDCA in accordance with BLM H-1601-1. The majority of the Project Area falls within VRM Class III, with a small southern portion of Drill Area 6 being VRM Class IV (**Figure 3-10**). VRM Class III allows for moderate changes to the characteristic landscape to partially retain the existing character of the landscape, while VRM Class IV allows for major changes to the characteristic landscape to provide for management activities that require such. The viewshed of each of the three KOPs is summarized below in terms of the foreground, middleground, and background distance zones per the BLM Visual Resources Inventory Manual H-8410-1 (BLM 1986).

KOP 1

KOP 1 is located at the Tumco parking lot/kiosk area facing southeast toward the proposed Project. KOP 1 was selected due to the significance and recreational nature of the Tumco Historic Mine off Blythe Ogilby Road and would be most readily viewed by recreational users of the Tumco Historic Minesite walking tour.

The foreground to middleground zone of the landscape consists of rugged, defined, circular rough rocks and sparse to clustered, irregular vegetation. In the foreground, the landscape appears as an irregular, horizontal form and a designated, unpaved walking trail has a bold, curving effect. Vegetation appears diffuse, broken, and jagged and clumped in some areas with varying color from green to brown. As the foreground transitions to the middleground zone, vegetation becomes more indistinct and irregularly sparse

and clustered. Land features in the middleground appear rugged to smooth with a diverging effect. BLM signage, posts, and a gate identifying the Tumco Historic Mine boundary are present in the middleground taking on linear vertical and horizontal form. The structures are bold and dark brown and contrast with the natural landscape.

The background zone is comprised of the west slopes of the Cargo Muchacho Mountains. Undulating, angular peaks along the crest of the mountains create pyramidal forms with irregular, angular lines along the backdrop of the blue sky. The mountain peaks range from low to tall and create a jagged line effect against the sky backdrop. Lower slopes of the mountains framing either side of the middleground zone have bolder lines creating variability in depth, insinuating the presence of canyon-like corridors. Vegetation is indistinguishable along the background mountain features. The mountains have a gray appearance while the sun creates a luminous effect in the blue sky above the mountains.

KOP 2

KOP 2 is located traveling north at a pullout off Blythe Ogilby Road and faces northeast toward the Cargo Muchacho Mountains. KOP 2 was selected due to its proximity to the Project Area and the potential for drilling to be visible by people traveling north on Blythe Ogilby Road in their periphery.

In the immediate foreground from KOP 2, the ground appears flat and wide with weak curving lines in the gravel. The ground is dotted with varying small to large, rounded rocks. Coarse, clustered vegetation is prominent in the foreground. The middleground consists of a soft dirt road and takes on a linear to curving form. The landscape of the middleground is primarily flat with indistinct vegetation clusters creating textures varying from coarse to smooth, with the ground appearing as tan and gray-brown. In the foreground to middleground, vegetation contrasts with the landscape as green, tan, and brown.

A weak, horizontal line is formed where the middleground meets the background zone at the base of the mountains. Jagged, angular peaks line the sky along the top of the Cargo Muchacho Mountains in the background. Mountain formations are bolder and more complex in the left most view of KOP 2 and as the user pans to the right, mountain features become less striated and fainter. This contrast creates variability in depth of the mountain range from the middleground to background.

There are no buildings, fences, or other structures visible in the foreground, middleground, or background zones of KOP 2.

KOP 3

KOP 3 is located traveling south at a pullout off Blythe Ogilby Road and faces southeast toward the Cargo Muchacho Mountains. KOP 3 was chosen due to its proximity to the Project Area and the potential for drilling to be visible by people traveling south on Blythe Ogilby Road in their periphery.

In the immediate foreground of KOP 3, a flat, linear, developed road runs parallel to the soil edge of the landscape. Bold lines separate the road from the natural soil landscape featuring sparse to clustered vegetation. A bold yellow line runs down the center of the cracked, grey asphalt road which highly contrasts with the natural landscape. Southward along the road, vegetation and soil lines begin to converge and become softer and more indistinguishable in the middleground zone. To the right of the middleground zone, tall, vertical power poles contrast with the blue sky. Textures of the landscape in the middleground zone are gradational, transitioning from coarse to smooth. As vegetation meets the base of the mountains, it appears grainy and greenish brown to indistinct.

The background zone of KOP 3 is comprised of mountain crests and blue sky. Mountain features are more prominent in the left side views from KOP 3. As the user pans to the right, the jagged, rough mountains begin to converge with the smooth, blue sky and become hidden behind the vegetation located in the middleground zone.

3.21.3 Environmental Impacts (NEPA) – Proposed Action

Visual contrast rating worksheets were completed for each of the KOPs analyzed to determine environmental impacts under the Proposed Action and are included as **Appendix H**.

KOP 1

. The distance between KOP 1 and the proposed Project facing the drill areas is less than one mile away. Disturbance activity is unlikely to be visible so long as disturbance occurs at lower elevations (hidden by vegetation) or higher elevations (hidden in a valley/canyon). Assuming disturbance occurs vertically up the mountains in the background or lower within the valleys/canyons, the contrast of operations and drilling equipment would be weak against the natural landscape.

Soils in the area would appear lighter in color upon exposure during drilling. These exposed soils would contrast with dark colored drill pads and equipment. While there is a possibility the Project would attract the attention of recreationalists and travelers visiting the historic Tumco walking area, the degree of contrast of the Project construction and operation at Drill Areas 1, 3 and 5 would be weak, creating indistinguishable linear features. Impacts to the viewshed from KOP 1 would be negligible, short-term, and localized.

KOP 2

KOP 2 is located approximately two miles away from Drill Area 6. It is anticipated that much of the Project would not be visible due to the mountainous topography of the proposed Project Area. Drilling equipment might be visible in the far background against the mountains and a helicopter may be temporarily visible during occasional travel to Drill Area 6. Assuming disturbance occurs vertically up the mountains in the background or lower within the valleys/canyons, contrast of operation equipment would be weak against the natural landscape. It is possible that the degree of contrast would be none if disturbance were to occur lower in the valleys behind the face of the mountain directly in front of KOP 2.

Soils in the area would appear lighter in color upon exposure during drilling, which would contrast with dark colored drill pads and equipment. While there is a possibility the Project would attract the attention of recreationalists and travelers due to its proximity to KOP 1, the degree of contrast of the Project construction and operation at Drill Area 6 would be weak and linear features of drilling equipment would be indistinguishable. Any visual contrast created as a result of the Project would be temporary during exploration activities and would not be constant within Drill Area 6 or along the access roads during the life of the Project. Impacts to the viewshed from KOP 2 would be negligible, short-term, and localized.

KOP 3

KOP 3 is located approximately one mile away from the Project Area and faces Drill Area 3. It is anticipated that the Project Area would not be visible due to the surrounding mountainous topography and tall vegetation in the foreground and middleground zones. Assuming disturbance would occur at higher elevations along the mountains in the background or lower within the valleys/canyons of the drill areas, contrast of operations and drilling equipment would be weak against the natural landscape. Project operations would likely occur behind the face of the mountains and would not be visible from KOP 3.

While there is a possibility the Project would attract the view of travelers driving along Blythe Ogilby Road from KOP 3, the degree of contrast of drilling equipment, construction of drill pads, and vehicles utilizing Project access roads would be temporary and inconsistent. A helicopter traveling from Drill Area 1 to Drill Area 3 may be visible occasionally and for short periods of time. Any visual contrast created as a result of the Project would be temporary during exploration activities and would not be constant within all drill areas, including Drill Area 3 or along the access roads during the life of the Project.

Under the Proposed Action, a 40-foot drill rig line against the existing landscape would have weak degree of contrast to form, color, line and texture elements of the existing background and would not be noticeable

to the casual viewer. Based on BLM Manual 8400-Visual Resource Management (BLM 1984), the drill pad area would be in the background distance zone where the texture and form of individual elements are no longer readily apparent in the landscape, appearing in patterns or outlines. The proposed drill rigs may add additional form and lines in the background zone as tall, vertical forms adding opposing colors not currently present in the existing landscape (including reflective surfaces), but they would not result in a strong degree of contrast and would likely be a weak, indistinct line element in the viewshed. The Project would be implemented over a period of up to two years, with drilling occurring up to two weeks at each of the 65 proposed drill sites prior to moving to a new drill site location. There would be up to two drill rigs in operations at a time within the Project Area, operating on a 12- or 24-hour-per-day schedule, with the potential for both drill rigs to be operating within one Drill Area. Weak, indistinct line elements would appear in the viewshed (**Figure 3-9**) under the Proposed Action from equipment, drill pads, and road improvements and construction; however, the contrast of the drilling equipment at each drill site against the existing characteristic landscape would be temporary and not sedentary to one location as Project activities would move between each Drill Area. Additionally, the Project Area has been designated as a BLM VRM Class III (BLM 2005, 2016), with a small portion designated as BLM VRM Class IV in the southernmost area (**Figure 3-10**). Overall, impacts to visual resources would be negligible, short-term, and localized.

3.21.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, impacts to visual resources are not anticipated as the Project would not be approved and the associated form, line, and texture from temporary structures, equipment, and access road improvements and construction would not be present against the characteristic landscape of KOPs 1, 2, or 3. Impacts to visual resources would continue to occur under existing conditions.

3.21.5 Impact Analysis (CEQA)

Refer to the *Viewshed Analysis for Indirect Visual Area of Potential Effect* technical memorandum in **Appendix E** for additional detail supporting the below impact analysis.

a) *Would the Project have a substantial adverse effect on a scenic vista or scenic highway?*

Less Than Significant Impact: No, the Project would not have a substantial adverse effect on a scenic vista or scenic highway. A scenic vista is generally defined as a viewpoint that provides panoramic or focused views of a highly valued landscape or scenic resource for the benefit of the general public. Scenic vistas may also generally consist of views of mountain ranges and ridgelines.

Per the Imperial County General Plan (Imperial County 2015) the Project is located within the broader “Pilot Knob Mesa” area, which the County has designated as having “Moderate Value” in terms of visual quality. More specifically, the Project is located within the foothills of the Cargo Muchacho Mountains. As discussed in the *Viewshed Analysis for Indirect Visual Area of Potential Effect* memorandum (see **Appendix E**), only the top portions of the 40-foot-high drill rig would be partially visible from certain public viewpoints, primarily those areas immediately adjacent to the proposed access roads/drill pads; however, as presented in the *Viewshed Analysis for Indirect Visual Area of Potential Effect*, it was determined the visible Project structures would have weak degree of contrast in terms of form, color, line and texture elements of the existing background and would not be noticeable to the casual viewer. Due to intervening topography, development of the exploratory drill facilities would not be visible from most distant public areas (e.g., along Ogilby Road), nor would the Project significantly impact or reduce the scenic quality of the Cargo Muchacho Mountains. Additionally, because the Project Area has previously been disturbed by historical mining activities, and development of exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.) would not be incompatible with the existing visual character. Furthermore, any potential

impacts to the existing landscape and scenic quality as a result of exploratory drilling activities would be temporary in nature and would not be stationary throughout the one- to two-year life of the Project or following reclamation given the nature of the proposed approximately two-week drilling campaign at each drill site.

In accordance with the California Scenic Highway Program, the California Department of Transportation (Caltrans) Scenic Highway Coordinators maintain a list of highways that have either already been designated or are eligible for designation as State scenic highways. This list is available on the California Scenic Highway Program website (<https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>). The Caltrans list was reviewed in May 2022, and there are no designated or eligible State scenic highways located within the Project viewshed. The closest State scenic highway is a portion of State Route 78 (SR-78) located over 60 miles away to the west, which is an “Officially Designated State Scenic Highway.” Due to the large distance between SR-78 and the Project Area, proposed Project operations would not be visible from SR-78. Neither Ogilby Road/State Route 34 (SR-34) located to the west, or Interstate 8 (I-8) located south of the Project site, are designated or eligible State scenic highways.

For the reasons outlined above, the proposed Project would not result in substantial adverse effects on a scenic vista or scenic highway, and therefore impacts would be less than significant, with no mitigation required.

b) Would the Project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact: See response to CEQA Criteria a) above. No, the Project would not substantially damage scenic resources within a State scenic highway. As discussed above, the closest State scenic highway is a portion of SR-78, which is an “Officially Designated State Scenic Highway, located over 60 miles away to the west. Due to the large distance between SR-78 and the Project Area, Project operations would not be visible from SR-78. None of the roadways within the vicinity of the Project Area (i.e., Blythe Ogilby Road/SR-34, Gold Rock Ranch Road, I-8) are designated or eligible State scenic highways. Therefore, the Project would not damage scenic resources within view of a State scenic highway, and there would be no impacts.

c) Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surrounding? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact: No, the Project would not substantially degrade the existing visual character or quality of public views of the Project area and its surroundings. The Project is located in a remote (i.e., non-urbanized) area of the Cargo Muchacho Mountains. As described under CEQA Criteria a) above, based on the *Viewshed Analysis for Indirect Visual Area of Potential Effect (Appendix E)* analysis, the primarily Project structures that would potentially be visible from certain public viewpoints would be the top portion of the 40-foot-high drill rig. However, the visual analysis determined that any visible Project structures would have weak degree of contrast in terms of form, color, line and texture elements of the existing background and would not be noticeable to the casual viewer compared to existing (i.e., baseline) conditions. The *Viewshed Analysis for Indirect Visual Area of Potential Effect* also found that although the proposed drill rigs may add additional form and lines in the background zone, it would not result in a strong degree of contrast and would likely be a weak, indistinct line element in the viewshed. Furthermore, impacts to the existing landscape and scenic quality as a result of exploratory drilling activities would be temporary in nature and would not be stationary throughout the one- to two-year life of the Project or following reclamation given the nature of the proposed approximately two-week drilling campaign at each drill site.

Additionally, the existing Project site is currently disturbed due to historical mining operations, and therefore has few existing aesthetical features or vegetation of note. As such, development of the drill sites and ancillary facilities (e.g., access roads, helipads and drill pads, staging areas, etc.) would not significantly change or negatively impact the overall visual character or quality from surrounding public viewpoints. Overall, for the reasons outlined above, the Project would not substantially degrade the existing visual character or quality of the Project site and its surroundings, and impacts would be less than significant, with no mitigation required.

d) *Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less Than Significant Impact: No, the proposed Project would not create new sources of substantial light or glare which would adversely affect daytime or nighttime views in the area. The issue of light and glare is typically associated with excessively bright nighttime lighting that crosses over property lines (i.e., “light trespass”) and illuminates off-site yards or bedroom windows. It is also associated with the condition that occurs when excessive nighttime lighting creates a “skyglow” effect.

Operations during the time of year when daylight hours are shorter, or for any required outdoor nighttime operations, minimal nighttime lighting may be employed to provide a safe working environment. For nighttime lighting, high-pressure sodium and/or cut-off fixtures (or equivalent International Dark-Sky Association-approved fixtures) would be used instead of mercury-vapor fixtures for any required nighttime lighting. The lighting fixtures would be used in manner intended to illuminate work areas within the Project site, and/or to areas that do not include light-sensitive uses.

The potential for daytime glare is low. The structures with the potential to result in a new source of glare would be the drill rigs or ancillary structures (e.g., tanks, compressors, shop, etc.); however, these structures would be installed in remote desert locations and would have a relatively small aboveground profile compared to the natural background. The structures would also be painted using non-reflective, muted tones, which would minimize potential offsite impacts associated with glare. For new lighting installed onsite, the surrounding topography would help further attenuate light and confine it to the area immediately surrounding the activities.

Because there would be no new permanent sources of light or glare proposed to be installed onsite, and because there are few areas of human habitation near the Project Area which could be potentially affected, the Project would have less than significant impacts associated with light or glare.

3.22 *Water Resources*

3.22.1 **Initial Study Determination (CEQA)**

Table 3-31 provides impact determinations of the Project on hydrology and water quality.

Table 3-31 Hydrology and Water Quality Environmental Checklist

Hydrology and Water Quality Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Hydrology and Water Quality Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
	substantially degrade surface or ground water quality?				
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.22.2 Affected Environment

The area of analysis for water resources is the Project Area plus the previous intermediate study area of mineral claim boundaries held by SMP (**Figure 3-11**), which is the same area of analysis as was surveyed for the 2021 aquatic resources delineation (Stantec 2021a). The area of analysis is located within Hydrographic Region 18 (California Region) in the Salton Sea Basin within the Tumco Wash subwatershed (USGS 2021a) and is geographically located in the southwestern edge of the Lower Colorado River Valley in the western flank of the Cargo Muchacho Mountains (**Figure 3-11**). Tumco Wash and the Oro Cruz Mine are located within the Project Area, American Girl Wash and the American Girl Mine are located just south of the Project Area, and the Padre and Madre claims in the Madre Valley are located further south (Western Mining History 2021). Overall topography within the area of analysis includes steep and rugged terrain in the mountains and low-lying flats to the immediate southwest. Elevations range from 400 to 1,640 feet AMSL. The Tumco Wash area includes an existing open pit, waste rock and tailings piles, and some abandoned facility/town remains as a result of the area's long history of mining dating back to 1780 (Western Mining History 2021).

Regionally, the average annual precipitation varies, but it generally increases with elevation. The estimated average annual precipitation and evaporation rates for the area of analysis are based on historic precipitation data last recorded in 1996 from the nearest Cooperative Observer Program Station at the Gold Rock Ranch. The annual average mean precipitation for the area of analysis is 0.32 inches (WRCC 2021).

The Tumco Wash is an ephemeral stream and generally carries surface water flows from the northeast to the southwest during rainstorm events. Flows originate from within and just outside the Project Area in the higher elevations of the Cargo Muchacho Mountains, where runoff from precipitation is concentrated and flows downslope to the southwest into a network of tributaries and washes, including the Tumco Wash, which flows southwest and terminates at the Algodones Sand Dunes (USGS 2021a) from infiltration and evaporation. Flows between the Project Area and the Algodones Sand Dunes are interrupted and redirected to culverts along Blythe Ogilby Road (**Figure 3-11**) and by a series of dikes along nearby railroad tracks.

No seeps and springs, wetlands, or playas were identified or located in the area of analysis. Surface water within the area of analysis is mainly dependent upon seasonal precipitation, as all drainages located within the area of analysis are ephemeral. Most drainage crossings are low flow crossings, with the operational culverts located outside of the Project Area along an access road to the previously disturbed sand and gravel operation just northwest of the Padre y Madre pit. Additional information on existing surface water resources in the area of analysis can be found in the Oro Cruz Exploration Project Aquatic Resources Delineation (Stantec 2021a). No mapped floodplains are within the Project Area (FEMA 2021).

The area of analysis lies within the Salton Trough basin and more specifically, overlies the Basin and Range basin-fill aquifer. The most permeable basin-fill deposits are present in the depressions created by the late Tertiary to Quaternary block faulting and can be classified by origin as alluvial-fan, lakebed, or fluvial deposits. The most important hydrologic features of the basins are alluvial fans. The basin fill received most of its recharge through the coarse sediments deposited in the fans. These highly permeable deposits allow rapid infiltration of water as streams exit the valleys that are cut into the almost impermeable rock of the surrounding mountains and flow out onto the surface of the fans (Planert and Williams 1995). Moderate to high groundwater yields have been obtained in the eastern part of Imperial Valley by deep wells tapping into marginal alluvial deposits of the Colorado River. Regional groundwater recharge in the Imperial Valley is controlled by the Colorado River, with minor contributors to recharge being underflow from tributaries, precipitation, and local runoff (BLM 2011).

The Project Area lies within the Ogilby Valley Basin (7-035) (California Department of Water Resources 2020), a Very Low priority groundwater basin designated under California's Sustainable Groundwater Management Act of 2014 (SGMA). The Imperial Valley Groundwater Basin is adjacent to the Project Area and lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea and extends across the US border into Baja California, Mexico (CA Department of Public Works 1954). The Ogilby Valley Basin is home to approximately 36 people with approximately 20 wells, of which about seven are water supply wells. Groundwater accounts for 1.26 percent of the basin's water supply (Groundwater Exchange 2021). Based on a desktop review of the National Water Information System Mapper and the SGMA Data Viewer, there are 33 wells within a five-mile radius of the Project Area (USGS 2021b; CDWR 2021), but the databases showed no wells within the Cargo Muchacho Mountains or the Project Area itself. Groundwater in the area of analysis is recharged naturally near the mountain fronts along the washes from precipitation runoff and by underflow from the east between the Cargo Muchacho Mountains and Pilot Knob (Coes et al. 2015). Since 1940, groundwater has been recharged along the All-American Canal and Coachella Canal, which occur within the Imperial Valley Groundwater Basin, from seepage of Colorado River water. Irrigation-return flow could also serve as a recharge source to the aquifer system in Imperial Valley (Thompson et al. 2008). Prior to 1940, the All-American Canal was not carrying water, and groundwater pumping was minimal in the area of analysis; the groundwater system is considered to have been in steady-state conditions (Coes et al. 2015). Well elevation data collected before 1940 indicate groundwater elevations at that time ranged from more than 100 feet AMSL to the east near the Cargo

Muchacho Mountains and Pilot Knob to 10 to 20 feet AMSL to the west near Imperial Valley. Groundwater movement generally was from east to west, and groundwater was recharged primarily by underflow through alluvial deposits between the Cargo Muchacho Mountains and Pilot Knob (Loeltz et al. 1975; Harshbarger 1977). The USGS estimates the Ogilby Valley Basin, within which the Project Area is located, to have a natural recharge rate of 250 acre-feet per year (California Department of Water Resources 2020).

Under surveys conducted in 2021 for presence of Waters of the US, a total of 432 aquatic resource features (i.e., drainages, tributaries, stream channels), including one pond, have been mapped within and in the vicinity of the Project Area and assessed for potential jurisdiction under the US Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB) and the CDFW (Stantec 2021a). No wetlands, seeps, springs, or playas were found, and flows within the area are ephemeral and are mostly sourced from direct precipitation as well as flows from the Cargo Muchacho Mountains in the east. Based on the definitions, regulations, and guidance for jurisdictional waters under the CWA, none of the features are expected to fall under the jurisdiction of the USACE because they were determined to be isolated with no connection to a traditional navigable water. All drainages sampled entering, exiting, and beginning in the area were determined to be ephemeral. All features potentially fall under the jurisdiction of the RWQCB and the CDFW, the permitting for such is described further in the following section. On November 28, 2022, the USACE provided an approved jurisdictional determination in accordance with the CWA based on the 2021 aquatic resources inventory, which provided that no jurisdictional waters are present within the Project Area or vicinity (USACE 2022; Stantec 2021a).

No surface water right permits occur within the area of analysis. The State of California does not permit groundwater rights and does not require groundwater use monitoring for most basins in the state, including those within the area of analysis.

3.22.3 Environmental Impacts (NEPA) – Proposed Action

Surface water features within the area of analysis consist of natural ephemeral drainages that convey water only during storm events. There are no seeps, springs, or perennial drainages within the Project Area, thus the Project would have no impact to these surface water features. Improvement and construction of drill roads and drill pads may affect the pathways of stormwater runoff and increase the potential for erosion within the area of analysis resulting in surface water quality impacts. The Project would require a Construction Stormwater General Permit (CGP) pursuant to the California State Water Resources Control Board National Pollutant Discharge Elimination System No. CAS000002, Order No. 2009-0009-DWQ, amended by 2010-0014-DWQ and 2012-0006-DWQ. A SWPPP would be developed for review and approval by the BLM and the approved measures would be implemented to control sedimentation from disturbance associated with Project activities. BMPs would be implemented to manage disturbed surfaces. Sediment control structures would include fabric and/or hay bale filter fences, siltation or filter berms, downgradient drainage channels, or other similarly effective features to prevent unnecessary or undue degradation. The Project would also require a Lake and Streambed Alteration Agreement with the CDFW pursuant to California Fish and Game Code Section 1602, further discussed above under **Section 3.22.2**. Potential impacts to surface water quality would be minimized by the implementation of the PDFs outlined in **Appendix F**, as well as incremental reclamation. Additional CMAs would also be implemented to minimize resource conflicts and water quality impacts, including LUPA-SW-3 and LUPA-SW-11, further described in **Appendix F**. The Proposed Action would have a negligible, short-term, and localized impact on surface water resources.

The Project anticipates using up to approximately 2,000 gallons of water daily for active drilling periods, which equates to approximately 240,000 gallons of water over the life of the Project (approximately 0.736 acre-feet per year). In relation to the Colorado River, the estimated 0.736 acre-feet of water needed for the life of the Project equates to approximately 0.00013 percent of the total current level of Lake Powell (5,462,412 acre-feet) and 0.0000098 percent of the total current level of Lake Mead amount (7,449,000

acre-feet). Additionally, the Project estimated water requirement of 0.736 acre-feet is approximately 0.30 percent of the natural groundwater recharge rate of the Ogilby Valley Basin. A 2,000-gallon portable water storage tank would also be kept onsite for drilling and dust suppression. Water used for dust control would be kept to a practicable minimum to minimize the risk of water runoff, and any water runoff would be managed to prevent downstream erosion or flooding or cause an exceedance of applicable water quality standards. The Project does not propose groundwater pumping or drilling of groundwater wells to be used for Project activities. Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, which may be sourced from groundwater or from the Colorado River, using water that is already permitted for pumping/use (the total amount permitted has already been considered within the total water budget available for pumping and the Project would be purchasing via an agreement with the seller for an amount within the seller's allowable acre-feet) and available for sale. Impacts to the Ogilby Valley Basin groundwater resources would be negligible, short-term, and localized. Based on the most recently available USGS Groundwater Watch data in the vicinity of the Project, the depth to groundwater within and in the vicinity of the area of analysis is approximately 250 feet below ground surface (USGS 2022). If groundwater is encountered during drilling activities, it would be fully contained within the drill sumps, and the sumps would be backfilled once all water has evaporated. All drilling mud used would be non-toxic and would be fully contained in the sumps. Upon completion of exploration activities, all exploratory drill holes would be sealed and abandoned in compliance with the most current edition of the State Water Resources Control Board Bulletins #74-81 and #74-90 Water Well Standards. SMP would coordinate with the Imperial County to obtain the appropriate permitting. With the implementation of these PDFs, the Proposed Action would have a negligible, short-term, and localized impact on groundwater resources overall.

3.22.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. As such, no impacts to water resources would occur under the No Action Alternative beyond existing conditions.

3.22.5 Impact Analysis (CEQA)

- a) *Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Less Than Significant Impact: No, the proposed Project, located within the Colorado River Basin region (Region 7), would not violate applicable Regional Water Quality Control Board (RWQCB) water quality standards, waste discharge requirements (WDRs), or otherwise substantially degrade surface or groundwater quality. As discussed above, because the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), no significant slopes would be created significant excavation or earth moving activities. Additionally, as discussed in **Section 3.18** above, topsoil and subsoil would be salvaged from the Project Area where feasible by pushing the material along the edge of the drill pads and along the sides of the new access roads

As discussed above, there are no existing or proposed drainage or stream features within the Project Area, and exploration operations and reclamation activities in the Project Area would not impact nearby waterways. The Project would not involve work within waterbodies nor create a waste that would be subject to regulation under a WDR. A site-specific BLM approved SWPPP would be developed and implemented to control sedimentation from disturbance associated with Project activities. Best Management Practices (BMPs) would be installed to manage disturbed surfaces. Sediment control structures could include, but not be limited to fabric and/or hay bale filter fences, siltation or filter berms, and downgradient drainage channels in order to prevent unnecessary or undue degradation.

Additionally, as included in **Appendix F**, a BLM-approved Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project Area. Minor servicing of mobile equipment (greasing and periodic fueling) would be conducted on BLM lands, limiting the potential for diesel fuel spills. Spill response kits would be maintained to ensure that pollutants are prevented from entering into washes. Any pollutants generated by Project activities would be properly disposed of in accordance with applicable regulations.

Upon completion of the exploration, the exploratory drill holes would also be sealed and abandoned in compliance with the most current edition of SWRCB Bulletin #74-81 and #74-90. Following abandonment of the exploratory boreholes, any remaining drill cuttings would be spread out on the drill pad surfaces, and reseeded/revegetated.

Temporary portable toilets would be placed within the Project Area and would be provided for the duration of the Project. Temporary portable toilets would be maintained by contractors and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried on-site. Operations in the Project Area would not produce any industrial or domestic wastewater discharges onsite.

Through the implementation of BMP's and PDFs (**Appendix F**), which would be included in the site-specific BLM approved SWPPP and Spill Contingency Plan, there would be no operational impacts related to RWQCB water quality standards or WDRs, and less than significant impacts would occur.

- b) Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

No Impact: No, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge that may impede sustainable groundwater management of the basin. As discussed above, the Project is located within the Ogilby Valley Basin, which is not an adjudicated groundwater basin as of 2022.

As discussed above in **Section 3.22.3**, the estimated water requirement for the Project is 0.736 acre-feet, which is approximately 0.30 percent of the natural groundwater recharge rate of the Ogilby Valley basin. The Project does not propose groundwater pumping or drilling of groundwater wells to be used for Project activities. Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, which may be sourced from groundwater or from the Colorado River, using water that is already permitted for pumping/use (the total amount permitted has already been considered within the total water budget available for pumping and the Project would be purchasing via an agreement with the seller for an amount within the seller's allowable acre-feet) and available for sale. The water purchased for the Project would be trucked in on a mobile water truck and would be utilized onsite for dust suppression, and applied water would either naturally evaporate or infiltrate into the ground.

Groundwater may be encountered during the course of exploratory drilling within the Drill Pads. Any water encountered or generated by drilling would be fully contained within the drill sumps constructed adjacent to each drill rig. The sumps would be approximately 12-feet by 12-feet and 6 feet deep. Other than cuttings and water used to advance the drilling, no other solid or liquid investigative derived wastes (IDW) are anticipated. The IDW would be fully contained within sumps the sumps constructed at each drill site. Specifically, drilling mud encountered would be pumped back out of the drill hole and into the sump, where solids would be allowed to settle out and water allowed to naturally evaporate. The sumps would then be backfilled using the excavated soils once the water is evaporated.

Because the estimated water requirements for the Project equate to 0.30 percent of the total natural recharge rate for the Ogilby Valley Basin, the Project would not substantially interfere with natural groundwater recharge. Based on the estimated water requirements and natural recharge rate of the Ogilby Valley Basin, the Project would not substantially decrease groundwater supplies. As such, the Project would not conflict with sustainable management of groundwater.

- c) *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
1. *result in substantial erosion or siltation on- or off-site;*
 2. *substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;*
 3. *create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*
or
 4. *impede or redirect flood flows?*

Less Than Significant Impact: See discussions below.

Erosion/Siltation: The proposed Project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion on- or offsite. As discussed above, there are no existing or proposed drainage or stream features within the Project Area, and exploration operations and reclamation activities in the Project Area would not impact nearby waterways.

Drilling exploration and related development of the Project Area is not expected to create an increased potential for stormwater runoff that could adversely impact adjacent areas. Additionally, due to the existing topography and land uses, the Project Area is not expected to receive significant local runoff from neighboring properties. Generally, stormwater that falls on the Project Area would be contained and would either naturally evaporate or infiltrate into the ground. Because runoff would ultimately not change as a result of the Project, post-reclamation runoff and erosion sedimentation would also not change. Development of the Project would not add any paving or impervious surface areas. Due to site topography and design, and through the implementation of applicable BMPs, the chances of discharge, erosion, and/or sedimentation from the Project Area that could adversely impact adjacent properties is considered very low, and potential impacts related to substantial erosion or siltation on- or off-site would be less than significant.

Flooding: As discussed above, the proposed Project would not substantially alter the existing drainage pattern of the Project site or adjacent areas in a manner that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Generally, stormwater that falls on the Project Area would be contained and would either naturally evaporate or infiltrate into the ground. Development of the Project would also not add any paving or impervious surface areas. Through implementation of BMPs that would be outlined in the site-specific BLM approved SWPPP, any stormwater that falls on the Project site would be captured or controlled. For these reasons, the proposed Project would not result in flooding on- or off-site, and the Project would have less than significant impacts.

Stormwater Drainage Systems/Sources of Polluted Runoff: No, the proposed Project would not substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff water. As discussed above, the Project would not increase and/or pollute stormwater runoff, and SMP would implement appropriate stormwater BMPs as needed. Additionally, the Project Area is in a remote location, and there are no existing or planned stormwater drainage systems within the Project vicinity.

Other than minimal quantities of fuels and lubricating oils, the Project would not use hazardous materials or generate hazardous wastes onsite. Any fuels or oils used onsite would be stored in covered, leak-proof containers when not in use, away from potential storm runoff areas or areas where vehicles may travel. A BLM-approved Spill Contingency Plan would also be implemented. To prevent the spread of any accidental leakage in storage, fuel and lubricants would be stored in a shallow (4-inch depth), 10-foot by 10-foot lined reservoir at each drill site and in an approximately 6 inch deep, 20 foot by 40-foot lined reservoir at the fueling station.

For the reasons outlined above, the proposed Project would not create or contribute substantial amounts of runoff or provide substantial additional sources of polluted runoff, and there would be no new impacts.

Impede/Redirect Flood Flows: The proposed Project would not substantially alter the existing drainage pattern of the site or area in a manner that would impede or redirect flood flows. Project activities would be performed within previously disturbed areas and would not involve significant excavation or changes to natural landform topography associated with existing drainages. Development of the Project would also not add any paving or impervious surface areas.

All present surface water features within the Project Area are ephemeral drainages; no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area, and none are proposed as a result of site development. Additionally, the FEMA Flood Insurance Rate Map (FIRM) was reviewed (<https://www.icpds.com/assets/planning/flood-zone-maps/38-fema-900.pdf>), and the entirety of the Project site and surrounding areas are designated as Flood Zone C, which represents “areas of minimal flooding”.

Due to the low flooding potential of the Project Area, and because the Project involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), development of the proposed onsite features (e.g., slopes, structures, roads, etc.) do not have the potential for a significant drainage or flood hazard impact on the environment, and would not create a new impediment to surface flow or change flood flow patterns. Thus, the Project would have no impacts related to flood flows.

d) Would the Project be located in flood hazard, tsunami, or seiche zones, or risk release of pollutants due to project inundation?

No Impact: The proposed Project would not be located in designated flood hazard, tsunami, or seiche zones and would not result in the potential for pollutants to be released to the environment by inundation. The Project site is located within a remote area of the Cargo Muchacho Mountains, far away from the Pacific Ocean or other larger inland body of water. The Project site is not located within a mapped tsunami or seiche hazard area as defined under the Department of Conservation’s Seismic Hazards Mapping Act and related seismic hazard maps (DOC 2022).

As discussed above, only ephemeral drainages are present within the Project Area; no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area, and none are proposed as a result of site development. FEMA’S applicable FIRM map shows the Project Area and surrounding areas are designated as Flood Zone C. As such, given the location and design of the Project, the fact that no surface or stormwater would run-on or -off the Project site, the depths/lack of impacts to groundwater, and the lack of potential pollutant sources onsite, the Project would not risk release of pollutants due to project inundation. Therefore, there would be no impacts.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact: See responses to CEQA Criteria a) through d) above. The proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Project entails exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.). Additionally, Project operations are temporary (i.e., 12- to 24-months), and the majority of the Project Area would be reclaimed once exploratory operations are complete. The Project activities would not result in waste streams or discharges that would be subject to regulation under an applicable water quality control plan. SMP would also implement BMPs to protect surface and ground water quality to ensure operations do not adversely impact water resources. Moreover, as discussed under CEQA Criteria b) above, the Project would not require the consumption of groundwater, and minimal quantities of groundwater encountered during drilling would be properly managed (contained in sump, allowed to naturally evaporate/infiltrate, etc.); consequently, the Project would not conflict with or obstruct a sustainable groundwater management plan. Therefore, no impacts would occur.

3.23 *Wildlife, including Migratory Birds, Special Status Species, and Threatened and Endangered Species*

3.23.1 Initial Study Determination (CEQA)

Table 3-32 provides impact determinations of the Project on biological resources (including wildlife and plant species).

Table 3-32 Biological Resources Environmental Checklist

Biological Resources Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e)	Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Biological Resources Criteria	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Conservation Plan, or other approved local, regional, or state habitat conservation plan?				

3.23.2 Affected Environment

The area of analysis for wildlife is the Project Area, including the temporary portal access road, plus a 500-foot buffer (**Figure 3-12**), with the exception of raptor species, which were analyzed within the Project Area plus a two-mile buffer (**Figure 3-13**) and threatened and endangered species, which were analyzed within the Project Area and proposed disturbance footprint (**Figure 3-14**). Wildlife in the area of analysis rely on limited water sources, with primarily ephemeral drainages, in addition to the ephemeral Tumco Wash, that only convey water during storm events as the dominant surface water features. There are no known wildlife guzzlers present within the area of analysis.

General Wildlife

Avian Species, including Migratory Birds and Raptors

Twenty avian species have the potential to occur within or near the area of analysis based on a habitat evaluation desktop review (WestLand 2021; CDFW 2020b). Of the 20 avian species with potential to occur within the area of analysis, all are protected under the Migratory Bird Treaty Act of 1918, as amended (MBTA) (16 USC 703-711). The MBTA implements a series of international treaties that provide for migratory bird protection, providing that it would be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird” (16 USC 703). The MBTA does not regulate habitat, and the list of species protected by it (revised in March 2020), includes almost all bird species (1,093) that are native to the U.S. Additionally, CDFW protects migratory birds via the California Fish and Game Code, holding that it is unlawful to take or possess any migratory non-game bird as designated under the MBTA or any part of such except as provided by rules and regulations under the provisions of the MBTA (Section 3513).

A total of 17 avian species were documented during the 2021 biological baseline surveys (WestLand 2021). As part of the 2021 baseline surveys, golden eagle nest ground surveys were conducted. No golden eagle individuals or nests were identified during the ground surveys within the raptor survey area. Two species of raptors potentially occur as residents or migrants within or near the area of analysis; during March 2021 biological baseline surveys, two occupied prairie falcon (*Falco mexicanus*) nests, one suspected red-tailed hawk nest (*Buteo jamaicensis*), and one unoccupied stick nest of an unknown species were documented. A complete list of avian species observed during the biological baseline surveys within or near the area of analysis is provided in **Table 3-33**.

Table 3-33 Avian Species Observed Within the Area of Analysis

Scientific Name	Common Name
<i>Amphispiza bilineata</i>	Black-throated sparrow
<i>Auriparus flaviceps</i>	Verdin
<i>Bubo virginianus</i>	Great horned owl
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Calypte costae</i>	Costa’s hummingbird
<i>Cathartes aura</i>	Turkey vulture
<i>Corvus corax</i>	Common raven

<i>Dryobates scalaris</i>	Ladder-backed woodpecker
<i>Falco mexicanus</i>	Prairie falcon
<i>Haemorhous mexicanus</i>	House finch
<i>Lainus ludovicianus</i>	Loggerhead shrike
<i>Meloxone fusca</i>	Canyon towhee
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Poliptila melanura</i>	Black-tailed gnatcatcher
<i>Salpinctes obsuoletus</i>	Rock wren
<i>Sayornis saya</i>	Say's phoebe
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow

Source: WestLand 2021

Mammal Species

Nine mammal species were observed within or near the area of analysis during the 2021 biological baseline surveys (WestLand 2021), and no BLM Sensitive or Special Status Species were observed (BLM 2014; WestLand 2021). A complete list of mammal species observed in or near the area of analysis is provided in **Table 3-34** below, and additional details can be found in the *Biological Resource Technical Report and Assessment Oro Cruz Exploration Project* (WestLand 2021).

The area of analysis occurs within Hunt Zone D12, designated by the CDFW but managed by the BLM. Game species that have previously been observed or have the potential to occur within or near the area of analysis include mule deer and desert bighorn sheep (*Ovis canadensis nelson*) (Stantec 2021b; BLM 2014). Mule deer were observed during the 2021 Desert Tortoise Surveys (Stantec 2021b) but were not detected during the biological baseline surveys conducted in March 2021 (WestLand 2021). While potential habitat exists, desert bighorn sheep have not historically occurred within the area of analysis and no evidence of occurrence was observed during the biological baseline surveys (WestLand 2021). Population numbers of big game species fluctuate from year-to-year based on habitat conditions. Limiting factors include water availability and the extent of suitable habitat, which influence the movement patterns of big game species.

Table 3-34 Mammal Species Observed Within the Area of Analysis

Scientific Name	Common Name
<i>Equus asinus</i>	Burro
<i>Neotoma spp.</i>	Unknown Packrat
<i>Odocoileus hemionus</i>	Mule deer
<i>Osteospermophilus spp.</i>	Unknown Ground squirrel
<i>Macrotus californicus</i>	California leaf-nosed bat
<i>Myotis spp.</i>	Unknown myotis
<i>Sciuridae spp.</i>	Unknown Squirrel
<i>Sylvilagus spp.</i>	Unknown Cottontail
<i>Vulpes spp.</i>	Unknown Fox

Source: WestLand 2021

Reptiles

One reptile species, the side-blotched lizard (*Uta spp.*), was observed within the area of analysis during the biological baseline surveys (WestLand 2021). The area of analysis was evaluated for suitable habitat for the Colorado Desert Fringe-toed lizard (*Uma notata*) and flat-tailed horned lizard (*Phrynosoma mcallii*); however, these species were not observed in the field during baseline surveys.

Special Status Species

The USFWS and the CDFW were contacted to obtain a list of threatened and endangered and sensitive species that have the potential to occur within the Project Area. In addition, the most recent BLM Sensitive Species List, which includes threatened and endangered species, was evaluated to determine if any species had the potential to occur within the area of analysis. Information from the USFWS, the CDFW, and the BLM indicated that the federally threatened Mojave Desert tortoise had the potential to occur within the area of analysis.

Avian Species

Western burrowing owl (*Athene cunicularia*) is a BLM Special Status Species and potential suitable habitat was identified as existing within the area of analysis. During the biological baseline surveys, suitable habitat was documented in the western and southern portions of the area of analysis, but no individuals or sign were physically observed (WestLand 2021).

Bats

An external evaluation of existing high-value bat roost locations was conducted prior to field surveys as well as a review of previous bat surveys conducted within nearby mines for previous permitting efforts within the area of analysis. These evaluations indicated that present bat species may include California leaf-nosed bat (*Macrotus californicus*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), and an unknown species, likely cave myotis (*Myotis velifer*) (WestLand 2021). Sign of an unknown bat species (*Myotis* spp.) was also observed and documented (WestLand 2021). Based on bat signs observed during the biological baseline surveys, California leaf-nosed bat was documented within the area of analysis, which is a BLM Special Status bat species associated with desert wash vegetation for foraging (WestLand 2021; Bolster et al. 1998).

Insects

Several statewide special status insect species, designated under CEQA, were evaluated to determine potentially suitable habitat within the area of analysis per historical documentation of occurrence (WestLand 2021; CDFW 2020b). No special status insect species were observed or detected during the biological baseline surveys.

Threatened and Endangered Species

The area of analysis for Threatened and Endangered Species is the Project Area plus the proposed surface disturbance footprint, specifically, the proposed Drill Areas and access roads (**Figure 3-14**). Four types of habitat exist in the area of analysis, including steep slopes, bajadas, desert pavement areas, and washes. Species listed under the ESA that have the potential to occur or could be potentially impacted by the Project include the threatened Mojave Desert tortoise. The Mojave Desert tortoise is a threatened species designated by the ESA with populations occurring north and west of the Colorado River in the Mojave Desert of Arizona, California, Nevada and Utah (Edwards et al. 2015; Murphy et al. 2011). The species is known to inhabit valleys, bajadas and hills with sandy loam or rocky soils in Mojave Desert scrub and the Lower Colorado River Valley subdivision of the Sonoran Desert; they are typically found on alluvial fans and valley bottoms (Edwards et al. 2015).

The area of analysis contains potentially appropriate Mojave Desert tortoise habitat and is located within 2,750 feet of the Colorado Desert Recovery Unit for desert tortoise. Biological surveys were conducted by Stantec in January 2021 and evidence of tortoise use of the area was detected in some of the proposed Drill Areas (Stantec 2021b). No Mojave Desert tortoise designated or proposed critical habitat was identified within the area of analysis during biological baseline surveys (WestLand 2021). Vegetation cover is low in the area of analysis but varies from almost zero on the steep rocky slopes and desert pavement to fairly dense in some of the washes and bajadas. Vegetation on the slopes and uplands consists of scattered creosote bush, ocotillo, brittlebush, and scattered native grasses. Areas at the beginning of the bajadas and base of steep slopes offer foraging, shade, and burrowing areas for desert tortoises.

The deep cut washes concentrate rain fall and allow a greater variety of larger shrubs, trees, and ground cover. Dominant vegetation in these washes consists of ironwood (*Olneya tesota*), mesquite (*Prosopis glandulosa*), palo verde (*Parkinsonia florida*), and tamarisk (*Tamarix ramosissima*). The washes in the area have the potential to provide needed forage and shade for desert tortoise species. Forage habitat includes grasses, forbs, and succulents (AGFD 2010). The wash banks supply areas for caliche caves and burrows. To escape extreme temperatures, Mojave Desert tortoise often excavate burrows under vegetation or rocks and would also use natural or manmade caves, which are typically associated with areas of creosote bush and other sclerophyll shrubs and areas with small cacti or Joshua trees (*Yucca brevifolia*).

Soils within the area of analysis developed from weathered granitic rock and schistose rock substrates. The soils consist of gravelly sands with large amounts of cobble, rock, and boulders. Hill slopes within the area of analysis are steep and almost entirely covered in large, weathered rock. Alluvial fans and washes in the area contain deeper soils that would be considered suitable for desert tortoise burrowing.

During the January 2021 desert tortoise surveys (Stantec 2021b), no tortoise or tortoise sign was found in Drill Areas 1, 4, and 7 or the areas' associated accesses. A total of eight burrows were detected in the remaining Drill Areas within the area of analysis, with three showing signs of active use, the details of which are shown in **Table 3-35**.

Table 3-35 Mojave Desert Tortoise Presence Within the Area of Analysis

Location ¹	Burrows Found	Condition	Signs of Active Use
Drill Area 2	2	Good	Yes
Drill Area 3	4	Good	Yes, at 2 of the burrows
Drill Area 5	-	-	Yes
Drill Area 6	2	One good; one deteriorated	No

Source: Stantec 2021b

¹Survey locations include Drill Areas and associated access roads.

3.23.3 Environmental Impacts (NEPA) – Proposed Action

General Wildlife

The Proposed Action would result in new surface disturbance of up to 20.54 acres, which would remove habitat for some wildlife species. This habitat would be unavailable for wildlife use and would result in an incremental increase in habitat fragmentation until the successful completion of reclamation. The proposed surface disturbance would be reclaimed and revegetated, which would minimize long-term impacts to vegetation and wildlife communities. Interim and concurrent reclamation would be maximized to the extent possible to accelerate revegetation of disturbed areas and would help re-establish wildlife habitat in the short-term. SMP would continue to monitor and control for noxious and invasive non-native species that may be introduced as a result of vegetation removal that could degrade the quality of wildlife habitat. Overall, impacts to general wildlife habitat and individual species from Project disturbance may occur; however, species populations are not expected to be impacted and impacts under the Proposed Action would be minor, short-term, and localized.

The Proposed Action would remove potential avian nesting and foraging habitat; some of this habitat may become available through interim reclamation, but a majority would be unavailable for avian use until successful completion of reclamation. Impacts to individual migratory bird and raptor species may be realized as a result of surface disturbance and potential vehicular mortality from overland travel and access road construction and improvements; however, impacts would not affect species populations. To minimize potential impacts from vehicular collisions and/or mortality, SMP would implement 20 mile per hour speed

limits along all routes within the Project Area (**Appendix F**). Furthermore, SMP has committed to conducting pre-construction surveys within 48 hours of surface disturbance within the species-specific buffers outlined in **Appendix F** from the area to be disturbed in order to avoid impacts to migratory birds. Should active nests be identified during the pre-construction surveys, SMP would implement appropriate avoidance buffers around the nest in coordination with the BLM based on the nest species identified. Impacts to migratory birds and raptors would be minor, short-term, and localized.

Some mule deer distributions exist within the Project area, but population statistics are not well known (WestLand 2021). Likely due to low water and forage availability, big game populations fluctuate year-to-year and no known migration corridors exist within the area of analysis. There are no known populations of desert bighorn sheep in the area of analysis, although potential habitat is present. Potential impacts to big game species that may use the Project Area for available forage would be an increase in potential habitat fragmentation and less available forage; however, given the minimal distribution of individual species and populations within the area of analysis, impacts to big game habitat under the Proposed Action would be minor, short-term, and localized. Impacts to individual large and small mammal species may be realized as a result of surface disturbance and potential vehicular mortality may occur from overland travel and access road construction and improvements; however, impacts would not affect species populations. To minimize potential impacts from vehicular collisions and/or mortality, SMP would implement 20 mile per hour speed limits along all routes within the Project Area (PDF-23 of **Appendix F**).

The Proposed Action would temporarily remove potential forage and habitat for reptile species that would be unavailable until successful completion of reclamation. Disturbance of habitat may impact individuals but is not anticipated to impact species populations; therefore, impacts to reptile species would be minor, short-term, and localized.

Special Status Species

Impacts to special status species, other than bats (described below), under the Proposed Action would be the same as those anticipated for general wildlife species. Additionally, CMAs specific to burrowing owls would be implemented should burrowing owls be identified during pre-construction surveys, including LUPA-BIO-IFS-12 through LUPA-BIO-IFS-14, as described in **Appendix F**. No sensitive wildlife noise receptors were identified during baseline data collection or analysis of the Proposed Action. Overall, noise impacts under the Proposed Action would be negligible and short-term given that noise impacts from both exploratory drilling and helicopter use would not be stationary and would be temporary in nature. Special status species may experience indirect impacts from noise generation under the Proposed Action, however, LUPA-BIO-12 (**Appendix F**) would be implemented to minimize noise impacts to BLM special status and sensitive wildlife species. Should golden eagles or golden eagle nests be identified during pre-construction surveys, CMA LUPA-BIO-IFS-24 would be implemented to minimize impacts of surface disturbance within one-mile of active golden eagle nests or territories, as included in **Appendix F**. Impacts would overall be minor, short-term, and localized.

Bats

The Proposed Action would create a source of light that would attract insects and, thus, foraging bats. Impacts to foraging and roosting areas for bats would be minor, short-term, and localized. Bats foraging in close proximity to the Proposed Action may collide with associated infrastructure, causing injuries or fatalities. SMP has committed to implementing a 500-foot surface disturbance buffer around known bat maternity roosts within the Project Area during the bat maternity season (April 1 through August 31). Overland travel could occur within the 500-foot buffer, but no direct surface disturbance or active drilling would occur within this buffer during the bat maternity season. With implementation of the 500-foot buffer, impacts to bat populations as a result of lighting from nighttime drilling would also be minimized as lighting for active drilling equipment would be over 500 feet away from bat maternity roosts. With implementation of the PDFs (**Appendix F**) acts from additional lighting and potential collisions with infrastructure would be negligible to minor, short-term, and localized. Impacts to bat species as a result of noise generated from

Project activities would be the same as described above for special status species. All other impacts to bats would be the same as those described for general wildlife mammal species.

There would not be disproportionate impacts to the California leaf-nosed bat. PDFs (**Appendix F**), such as minimizing disturbance to wash vegetation and the avoidance buffers as described above, would reduce impacts to the California leaf-nosed bat. Impacts would be minor, short-term, and localized.

Threatened and Endangered Species

Potential habitat areas for the Mojave Desert tortoise that could be impacted under the Proposed Action include areas of bajadas, hills with sandy loam, rocky soils in Mojave Desert scrub vegetation communities, alluvial fans, and valley bottoms. Project activities would be monitored throughout the life of the Project to avoid potential impacts to Mojave Desert tortoise habitat. SMP would designate an FCR who would be responsible for overseeing compliance with protective stipulations for desert tortoise habitat, and for compliance coordination with the BLM. Measures for potential translocation of tortoise individuals to nearby areas with suitable habitat is discussed further below..

Potential impacts to Mojave Desert tortoise individuals could include injury, direct mortality, displacement of individuals, and increased stress. A BLM-approved Authorized or Qualified Biologist would be onsite prior to and during Project activities involving heavy machinery or any surface disturbing activities to ensure no desert tortoises are killed or burrows crushed, and Project staff are compliant with desert tortoise best practices. Within 24 hours of commencement of Project activities, pre-construction desert tortoise surveys would be conducted by a BLM-approved Authorized or Qualified Biologist within the area to be disturbed, plus a 500-foot buffer, and the BLM-approved Authorized or Qualified Biologist would be onsite during initial Project activities or mobilization. In addition, the FCR would be required to be onsite during all Project activities and would be responsible for stipulations for desert tortoise populations. During the desert tortoise active season, the FCR would be a BLM Authorized or Qualified Biologist. Outside of the active season, the FCR may be an on-site compliance monitor that would coordinate closely with a BLM Authorized or Qualified Biologist to be on-site immediately as needed. If a desert tortoise is discovered in harm's way, a BLM Authorized Biologist will move the tortoise, no more than 300 meters, into adjacent habitat following the latest USFWS clearance and handling procedures. If the BLM-approved Authorized or Qualified Biologist observes significant clinical signs of ill health, the tortoise would be removed from the wild in coordination with the USFWS. If suitable habitat is not available within 300 meters of the tortoises' capture locations or other land ownership restrictions prevent the release of individuals within 300 meters (e.g., privately owned land lacking permission), the tortoise would be translocated to the Recipient Site adjacent to the Project Area (**Figure 3-14**). Additionally, the BLM would require a mitigation measure for SMP to install exclusionary fencing around the access road to prevent desert tortoise crossings and collisions with individual species within Tumco Wash. The BLM also conducted Section 7 of the ESA consultation with the USFWS to develop the appropriate mitigation measures for the implementation under the Proposed Action in accordance with the 2017 Programmatic Biological Opinion (USFWS 2017) for Mojave Desert tortoise, described in Section 4.1.1. Further, CMA LUPA-BIO-IFS-9 would be implemented to reduce vehicle speeds to 15 miles per hour within areas not cleared by surveys where desert tortoise may be impacted, as included in **Appendix F** along with several additional PDFs specific to desert tortoise. Through implementation of these BMPs, the detailed PDFs, and CMAs in **Appendix F**, impacts to Mojave Desert tortoise under the Proposed Action are anticipated to be minor, short-term, and localized.

3.23.4 Environmental Impacts (NEPA) – No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. As such, no impacts to wildlife, including migratory birds, special status species, and threatened and endangered species, would occur under the No Action Alternative beyond existing conditions.

3.23.5 Impact Analysis (CEQA)

Refer to *Biological Resource Technical Report and Assessment* in **Appendix E** for additional detail supporting the below impact analysis.

- a) *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the CDFW or USFWS?*

Less Than Significant Impact with Mitigation: No, the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. WestLand evaluated the potential for special-status species to occur in the Project Area. Of the 41 potential plant species and 26 potential wildlife species WestLand identified (**Appendix E**), three special status plant species and seven special status wildlife species were determined to have a possible presence or a high potential to occur in the Project Area. Refer to **Section 3.20.2** above for a complete discussion on vegetation, including special status plant species, and **Section 3.23.2** above for a complete discussion on the affected environment for wildlife, including special status and threatened and endangered species.

Recommended Avoidance Measures: As stated above, the overall proposed Project would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Nonetheless, to ensure the Project's potential adverse impacts to sensitive plant and wildlife species and habitats are avoided, a variety of protection measures would be implemented. A complete description of the environmental protection measures that SMP has committed to as PDFs are provided in **Appendix F**. Through the implementation of the avoidance and protection measures (**Appendix F**), the Project would not have an adverse effect, either directly or indirectly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. Therefore, Project impacts would be less than significant with mitigation incorporated.

- b) *Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?*

Less Than Significant Impact with Mitigation: See response to CEQA Criteria a) above. No, the proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. As discussed above, the Project Area has been previously disturbed by mining activities. In general, vegetation is sparse in both the upland and xeroriparian habitats.

Per *Biological Resource Technical Report and Assessment* (WestLand 2021) in **Appendix E**, WestLand found that vegetation is sparse in both the upland and xeroriparian habitats of the Project area. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*). In addition, large portions of the area of analysis consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summation, vegetation in the area of analysis is uniformly sparse and consists of very low density shrublands, upland trees and highly disturbed habitats.

The three native vegetation categories identified during the baseline surveys (Westland 2021) are described in **Section 3.20.2**). No riparian areas have been identified within the Project Area. The only surface water features present within the Project Area are ephemeral drainages; no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area.

Conclusion: As discussed previously, wildlife habitats on and around the Project Area have been significantly influenced by historic mining activities, as well as by recreational and mine exploration activities. Additionally, proposed Project activities with the potential to effect sensitive habitat or other natural communities would be limited in scope (i.e., 20.54 acres of new disturbance) and duration (12- to 24-months of exploration activities). Once exploration operations are complete, the Project Area would be fully reclaimed and revegetated.

For these reasons, and through the implementation of the PDFs described in **Appendix F**, the Project would not result in significant impacts to riparian habitat or other sensitive natural communities or state or federally protected wetlands, and there would be less than significant impacts with mitigation incorporated.

- c) *Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less Than Significant Impact: No, the proposed Project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into “waters of the United States” pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated plant communities under Fish and Wildlife Code Sections 1600 et seq.

The only surface water features present within the Project Area are ephemeral drainages; no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area, and none are proposed as a result of site development. Under surveys conducted in 2021 for presence of Waters of the US, a total of 432 aquatic resource features (i.e., drainages, tributaries, stream channels), including one pond, have been mapped within and in the vicinity of the Project Area and assessed for potential jurisdiction under the USACE, the Regional Water Quality Control Board (RWQCB) and the CDFW (Stantec 2021). No wetlands, seeps, springs, or playas were found, and flows within the area are ephemeral and are mostly sourced from direct precipitation as well as flows from the Cargo Muchacho Mountains in the east. Based on the definitions, regulations, and guidance for jurisdictional waters under the CWA, none of the features are expected to fall under the jurisdiction of the USACE because they were determined to be both isolated with no connection to a traditional navigable water. All drainages sampled entering, exiting, and beginning in the area were determined to be ephemeral. All features potentially fall under the jurisdiction of the RWQCB and the CDFW. On March 29, 2021, an application was submitted to the USACE for an approved jurisdictional determination with an aquatic resources inventory providing the survey data to support no jurisdictional waters being present within the Project Area or vicinity. The USACE’s approved jurisdictional determination is currently pending and is anticipated to be received within the timeline of completion prior to Project approval.

Because there are no jurisdictional drainages within the Project Area, and because SMP would obtain the requisite approvals from the RWQCB, CDFW and the USACE, the Project would not have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means, and there would be less than significant impacts.

- d) *Would the Project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less Than Significant Impact: See responses to CEQA Criteria a) and b) above. No, the proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or disrupt native nursery sites. The Imperial County General Plan (Imperial County 2015), specifically Figure 1 through Figure 3 within the Conservation and Open Space Element, depicts “sensitive habitats”, “sensitive species” and “agency-designated habitats” within the County, respectively. According to the Imperial County General Plan, the Project Area is not located within a County-designated wildlife corridor. Additionally, as stated above, there are no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area that could harbor migratory fish species. The only surface water features present within the Project Area are ephemeral drainages and do not support fish species.

As with other undeveloped areas of the Cargo Muchacho Mountains, the Project Area would have the limited potential to provide limited upland wildlife movement opportunities across the Project site from other nearby undeveloped wilderness areas (e.g., Pilot Knob Mesa and Algodones Dunes areas to the southwest). However, since the majority of the Project Area and adjacent lands have been disturbed by historical mining, and the lack of suitable habitat that would be maintained through the life of the Project, wildlife movement opportunities through the Project Area would remain limited.

WestLand also completed a raptor survey and evaluated the potential for species protected under the Bald and Golden Eagle Protection Act (BGEPA) to occur within the Project Area, the results for which are summarized under **Section 3.23.2**. Specific to species protected under the BGEPA, WestLand determined that the bald eagle has “no” potential to occur, and the golden eagle has an “unlikely” potential to occur as the habitat within the Project Area is unsuitable, and the habitat within the raptor area of analysis (see Figure 3 in *Biological Resource Technical Report and Assessment of Appendix E*) was marginal. Additionally, as described under CEQA Criteria a) above, SMP would implement the PDFs for biological resources as included under **Appendix F**. This would include pre-construction biologist surveys, minimizing native ground disturbance/installation of barriers, worker training, and other measures which would ensure the Project would not substantially interfere with any migratory species that may happen to move through the Project Area. Through implementation of these avoidance and protection measures, SMP’s use of the Project Area for exploratory drilling operations would not impact wildlife movement opportunities or prevent the surrounding habitat from continuing to function as a wildlife corridor. Therefore, implementation of the Project (including construction, operations and reclamation) would not substantially alter existing wildlife movement patterns, and there would be less than significant impacts with mitigation incorporated.

e) Would the Project conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?

Less Than Significant Impact: No, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Both the Imperial County General Plan (Imperial County, 2015) and the Imperial County – Code of Ordinances (Imperial County, 2022) were reviewed. Specifically, the Conservation and Open Space Element of the General Plan, as well as Chapters 12.44 (Wildlife Protection) and 12.48 (Wild Flowers and Trees) of the Code of Ordinances outline specific preservation measures and provides regulations and guidelines for the management of plant resources in the unincorporated areas of the County.

Chapter 12.44 of the County Code of Ordinances is specific to the protection of watercourses or wildlife watering holes. As discussed above, no permanent waterways, perennial or intermittent streams, or diversion channels exist within or adjacent to the Project Area, and none are proposed as a result of site development. The only surface water features present within the Project Area are ephemeral drainages. Water that contacts the Project Area, either from application for dust suppression or as a result of a precipitation event, would be contained onsite and either naturally evaporate or infiltrate into the ground.

There would be no discharges outside the drill sites or in surface tributaries, and no pollutants would be discharged, and Project water management would comply with applicable county, state, and federal laws. Additionally, as discussed in **Section 3.22**, the Project operations would be conducted pursuant to the CGP for stormwater discharges. For these reasons, the Project would comply with the provisions of outlined under Chapter 12.44 of the County Code.

Chapter 12.48 of the County Code of Ordinances prohibits the destruction (e.g., dig up, remove, mutilate, or destroy) or disturbance of specific tree and flower species. **Table 3-36** describes the trees and plants species regulated under Chapter 12.48 of the County Code of Ordinances and summarizes applicability to the proposed Project. Also see *Biological Resource Technical Report and Assessment* (WestLand, 2021) in **Appendix E**, which provides a comprehensive list of the potential wildlife and plant species observe on/near the Project Area.

Table 3-36 Imperial County Code Plant Protection and Management

Code Section/Text	Protected Tress & Vegetation	Applicable to Project
12.48.010 – Picking or destroying of certain trees and flowers.		
It is unlawful for any person, firm or corporation to mutilate or destroy or pick blossoms, branches, leaves or berries from any:	Mountain Dogwood (<i>Cornus Nuttalli</i>), Snow Plant (<i>Sarcodes Sanguinea</i>), Tiger Lily (<i>Lilium Parryi</i>), Western Azalea (<i>Rhododendron Occidentale</i>), California Holly Toyon Berry (<i>Heteromeles Arbutifolia</i>), Maiden-hair Fern (<i>Adiantum</i>), Sword Fern Family (<i>Nephrolepic</i>), Giant Canyon Fern (<i>Woodwardia Radicans</i>),	Not Applicable. None of the plant species protected under Section 12.48.010 were found within the Project Area.
12.48.020 – Digging up, removal or possession of certain trees and flowers.		
It is unlawful:	To dig up or remove the bulbs of the Lemon Lily or the Tiger Lily, To dig up or remove the Snow Plant, Maidenhair Fern, Sword Fern Family, or Giant Canyon Fern, To remove or cut or have in possession any of the branches, leaves, plants or berries of the Mountain Dogwood, Western Azalea, or the California Holly Toyon Berry,	Not Applicable. None of the plant species protected under Section 12.48.020 were found within the Project Area.
12.48.030 – Yucca plant.		
It is unlawful for any person, firm or corporation to dig up, remove, mutilate, or destroy any Yucca plant, or to pick or cut any bloom or blossoms therefrom, growing upon public or private land without a permit issued by the board of supervisors of Imperial County, except by the owner of such land or with the written consent of such owner.		Not Applicable. Per the biological baseline survey (Westland 2021), no Yucca plants were found within the Project Area.
12.48.040 – Yucca trees.		

Code Section/Text	Protected Tress & Vegetation	Applicable to Project
<p>It is unlawful for any person, firm or corporation to dig up, remove, mutilate, or destroy any Yucca Trees of the following varieties:</p>	<p>Quixote Plant (<i>Yucca Whipplei Torr.</i>); Joshua Tree (<i>Yucca brevifolia Engelm.</i>); Spanish Dagger (<i>Yucca mohavensis Sarg.</i>); Spanish Bayonet (<i>Yucca baccata Torr.</i>); Desert Lily (<i>Hesperocallis undulatus Wats.</i>); Fan Palm (<i>Washingtonia filifera Wendl.</i>); Desert Holly, Atriplex hyhenelytra (<i>Abronia Wats.</i>); Desert Verbena (<i>Abronia villosa Wats.</i>); Desert Evening Primrose (<i>Enothera trichocalyx Nutt.</i>); Smoke Tree (<i>Parosela spinosa [Gray] Heller</i>); Lupin (<i>Lupinus spp.</i>); Coach Whip or Ocotillo (<i>Fouquieria splendens Engelm.</i>); Desert Willow (<i>Chilopsis linearis D. C.</i>); Sandfood (<i>Ammobroma soncrae Torr.</i>); Scarlet Bugler (<i>Pentstemon centanthrifolius Benth.</i>); Indigo Bush (<i>Parosela Schottii</i>);</p>	<p>Not Applicable.</p> <p>None of the Yucca tree species protected under Section 12.48.040 were found within the Project Area that would have to be removed or disturbed as a result of Project activities.</p>
12.48.050 – Cactus.		
<p>It is unlawful for any person, firm or corporation to dig up, remove, mutilate, destroy, or pick any cactus of the following varieties:</p>	<p>Cholla (<i>Opuntia echinocarpa Engelm.</i>); Barrel Cactus (<i>Echinocactus cylindraceus Enfielm.</i>); Giant Cactus (<i>Cereus gigantea Engelm.</i>); Strawberry or Fish Hook Cactus (<i>Mamillaria tetrancistra Engelm.</i>); Bird Nest Cactus (<i>Mamillaria grahami Engelm.</i>); Acanthus (<i>Beloperone californica Benth.</i>); Hedgehog Cactus (<i>Echinocactus polysancistrus Engelm. and Bigel.</i>); Torch Cactus (<i>Cereus engelmanni Parry</i>); Beavertail Cactus (<i>Oprentia basillaris Engelm.</i>); Clavate Cactus (<i>Opuntia clavata Engelm.</i>); Grizzly Bear Cactus (<i>Opuntia erinacea</i>); Opuntia Cactus (<i>Opuntia ramossissima Engelm.</i>); and Marguey or Agaves (<i>Agate deserti Engelm.</i>);</p>	<p>Not Applicable.</p> <p>None of the cactus species protected under Section 12.48.050 were found within the Project Area that would have to be removed or disturbed as a result of Project activities.</p>
12.48.070 – Shrubs.		
<p>It is unlawful for any person, firm or corporation, except the owner of such land or with the written consent of such owner, to dig up, remove, mutilate, or destroy shrubs of the following variety: Crucifixion Thorn (<i>Holacantha Emoryi</i>)</p>	<p>Not Applicable.</p> <p>Per the biological baseline survey (WestLand 2021), no Crucifixion Thorn were found within the Project Area.</p>	
12.48.080 – Tags, seals and wood receipts.		
<p>Where a permit is required by this chapter, authorizing the harvesting, transporting or possessing of trees or plants, such permits would be accompanied by a tag or seal for each tree or plant to be harvested, possessed or transported. The tag and/or seal would be retained and utilized-pursuant to Sections 80101 and 80102 of the Food and Agricultural Code of the state of California as it now exists, or may hereafter be amended.</p> <p>Each permit authorizing the harvesting, transporting or possessing of plants or trees, for wood, which plants or trees are listed in this chapter would be accompanied by a wood receipt. The wood receipt would be nontransferable and would be retained pursuant to Section 80103 of the Food and Agricultural Code of the state of California as it now exists or may hereafter be amended.</p>	<p>Not Applicable.</p> <p>No trees species were found within the Project Area that would have to be removed or disturbed as a result of the Project activities.</p>	

Note: See *Biological Resource Technical Report and Assessment* in **Appendix E** for findings based on the biological baseline surveys for the Project.

As shown in **Table 3-36** above, none of the regulated trees, plants, or protected riparian areas outlined in the County Code of Ordinances pertain to this Project (i.e., none were found on/near the Project Area per the biological baseline surveys [WestLand 2021]). Per the discussions above, the Project is consistent with, and would not interfere substantially with, any local policies or ordinances protecting biological resources. Therefore, impacts are less than significant with no mitigation required.

- f) *Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Less Than Significant Impact with Mitigation: See response to CEQA Criteria e) above. No, the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP. As described under CEQA Criteria e) above, the Project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan (i.e., Chapter 12.44 – Wildlife Protection, Chapter 12.48 – Wild Flowers and Trees, etc.), or other approved County habitat conservation plan.

While the Project Area is not within a County-designate habitat conservation area, the Project Area does occur within the federal Picacho ACEC as designated under the DRECP (BLM 2016). The BLM’s goals for the management of the Picacho ACEC are to enhance, protect and preserve the cultural and biological resources while providing compatible recreational opportunities; and to maintain desert tortoise habitat connectivity between the Chuckwalla Desert Wildlife Management/ACEC/Critical Habitat Units and high value climate refugia for wildlife (BLM 2016). The Project has been designed to be consistent with the requirement outlined in the DRECP (BLM 2016), and PDFs specific to desert tortoise are described in full under **Appendix F**. Through the implementation of the PDFs, the Project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan (i.e., DRECP), or other approved local, regional, and/or state habitat conservation plan. Therefore, proposed Project activities would not conflict with future HCPs, NCCPs, or other approved local, regional, or state HCPs, and there would be less than significant impacts with mitigation incorporated.

3.23.6 Cumulative Effects

The CESA boundary for wildlife, including migratory birds, special status species, and threatened and endangered species, includes the Project Area plus a five-mile buffer (**Figure 3-3**). This CESA was chosen as it is the geographic area to which cumulative impacts to wildlife species would occur based on surface disturbance proposed under the Project and known wildlife occurrences. The CESA encompasses 68,020 acres.

Within this CESA, past and present disturbance, as detailed in **Table 3-37**, has resulted from the following activities: mineral development and exploration projects (1,856 acres); oil and gas pipelines (1 acre); utilities, infrastructure, and public purpose projects (74 acres); roads and railroads (215 acres); and dispersed recreation. No documented recent and past wildland fires have occurred within the CESA.

Table 3-37 Past, Present, and RFFAs in the Wildlife CESA

Past, Present, and RFFAs, Disturbances and Projects		CESA
	CESA Acres	68,020
Past Actions		
Mineral Development and Exploration		

Past, Present, and RFFAs, Disturbances and Projects	CESA
Sand and Gravel Operations, Materials Sites and Community Sand and Gravel Pits	360
Notices	64
Mining and Exploration Projects	1,432
Utilities, Infrastructure, and Public Purpose	
Communication Facilities	9
Water Pipelines and Water Infrastructure	4
Other	21
Past Actions Total Disturbance Acres	1,890
Present Actions	
Oil and Gas Pipelines	
Pipelines	1
Utilities, Infrastructure, and Public Purpose	
Powerlines	37
Water Pipelines and Water Infrastructure	3
Roads and Railroads Present Actions	
Roads	197
Railroads	18
Present Actions Total Disturbance Acres	257
RFFAs	
Mineral Development and Exploration	
Mining and Exploration Projects	73
Utilities, Infrastructure, and Public Purpose	
Power Lines	13,881
RFFAs Total Disturbance Acres	13,954
Past, Present, and RFFAs Total Disturbance Acres	16,101
Percent of CESA	24
Fires	0

Source: BLM 2022a-b

Of the 68,020 acres covered by the CESA, 16,101 acres of disturbance are associated with past, present, and RFFA disturbances, which is a disturbance of approximately 24 percent of the CESA.

Past activities from mineral development and exploration activities and infrastructure in the CESA have resulted in removal of vegetation, dispersal or displacement of local populations, and fragmentation of certain wildlife habitats and populations. Removal of the vegetative understory may impact nesting success and predation. Road construction and use disturbs wildlife habitat by removing vegetation, compacting soils, displacing individuals, increasing noise, and by creating long-term impacts resulting from habitat fragmentation and direct mortality from vehicle collisions.

Human presence tends to disturb many species of wildlife throughout their habitats. Past and present recreational uses in the area include hunting, OHV use, hiking, and primitive camping. Human disturbance during periods of the year when wildlife species are otherwise stressed due to a lack of forage and/or harsh weather (as occurs during the winter season), can further stress wildlife and may increase mortality.

RFFAs in the CESA would include mineral development and exploration projects (73 acres) and utilities, infrastructure, and public purpose projects (13,881 acres) (**Table 3-36**). Future mineral development and exploration would include the pending reclamation at the San Pedro Gravel Jackson Gulch Mine. Additionally, a proposed powerline from Yuma, Arizona to the Imperial Valley of California is currently pending that would include 13,881 acres of linear surface disturbance; however, the full extent of the powerline would not be within the Wildlife CESA and the BLM currently has an indefinite hold on the future action. Impacts from RFFAs may include habitat loss, removal of vegetation, fragmentation of migration corridors, displacement from increased human presence and noise, and introduction of invasive weed species. Wildland fires in this CESA may occur in the future, as would dispersed recreation. Impacts from these RFFAs would lead to similar impacts as stated for past and present actions.

Proposed Action

The Proposed Action would increase disturbance to wildlife habitat within the CESA by a maximum of 20.54 acres (less than one percent of the CESA) for a total disturbance in combination with past, present, and RFFAs of 16,122 acres (approximately 24 percent of the CESA). Cumulative impacts on general wildlife from past, present, and RFFAs in combination with the Proposed Action would result in cumulative displacement and habitat fragmentation, as well as short-term disturbance and removal of habitat and forage area. Displacement and habitat fragmentation decreases survival rates of affected individuals to some degree and increases competition. The presence of new and improved roads may increase mortality from vehicle collisions. If disturbance areas are not properly reclaimed, invasive weeds may become established which would have additional long-term impacts on general wildlife habitat. However, proposed operations would be temporary, and reclamation would occur on all proposed disturbances concurrently, including revegetation with a BLM-approved seed mix, which would reduce these long-term impacts to wildlife and their habitat. PDFs for avoidance buffers and pre-construction surveys would be implemented to reduce impacts to avian species, including migratory birds, and bat species during the breeding season (**Appendix F**). The proposed new road for access to the staging area/underground portal would remain as a post-closure feature for access to the Project Area for reclamation and monitoring activities as well as continued underground exploration, which would be completed and remaining surface disturbance reclaimed within five years from Project implementation. It is not anticipated that the Proposed Action would have any cumulative impacts on avian or big game migratory corridors. Additionally, the Project would be completed outside the desert tortoise active season (March 15 through November 1) as feasible and pre-construction surveys would be completed within 24 hours of commencement of Project activities (year-round) within the proposed area for disturbance and a 500-foot buffer to determine potential desert tortoise presence, activity, and burrow sites for avoidance. A complete list of PDFs for minimization of impacts to wildlife species is provided in **Appendix F**. The Proposed Action, in combination with past, present, and RFFAs, would result in minor, short-term, and localized cumulative impacts to wildlife within the CESA, and it is anticipated most wildlife species would be able to relocate to similar habitat around the CESA during temporary exploration operations.

No Action Alternative

Under the No Action Alternative, the proposed Oro Cruz exploration activities would not be approved and the associated impacts to wildlife, including migratory birds, special status species, and threatened and endangered species, would not occur. Overall, cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur and thus would not additionally impact wildlife. There would be no cumulative impacts beyond those currently occurring from past, present, and RFFAs.

3.24 Wildfire

3.24.1 Initial Study Determination (CEQA)

Table 3-38 provides impact determinations of the Project on wildfire, per CEQA guidelines whether a project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

Table 3-38 Wildfire Environmental Checklist

Wildfire Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.24.2 Affected Environment

This resource is not a supplemental authority considered for analysis by the BLM under NEPA, and there is minimal risk of fire from Project activities with the implementation of the PDFs described in **Appendix F**. Therefore, this resource was not analyzed further under the NEPA requirements for the affected environment or environmental impacts for each alternative, per the determination in **Table G-1 of Appendix G**.

3.24.3 Impact Analysis (CEQA)

According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone (FHSZ) maps (CAL FIRE 2022), the Project Area is located within a Federal Responsibility Area (FRA) as well as a Local Responsibility Area (LRA), specifically within a FHZS designated as having an “Other Moderate” or “LRA Moderate” risk of wildfire. There are areas designated as having a “High” or “Very High” FHSZ potential within or near the Project Area.

- a) *Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?*

No Impact: No, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. As discussed in **Section 3.11**, Imperial County maintains various emergency plans and emergency preparedness procedures, primarily outlined within the EOP (Imperial County 2016) and *Multi-Jurisdictional Hazards Mitigation Plan Update* (Imperial County 2015). Both documents were reviewed, and the Project would not conflict with any applicable provisions found in the County's emergency response or hazard mitigation plan(s).

The Project would not impair implementation of, or physically interfere with, these adopted emergency plans or emergency evacuation plans because the Project would not add to off-site traffic congestion above existing levels that might delay emergency response activities. As discussed above, existing access roads would be used to the extent possible but some new access roads would be required across BLM land (**Figure 2-1**). New access roads would be used strictly for Project support vehicles to access the exploration Drill Areas. Drilling equipment would be trucked to one of two truck unloading points, and then would be safely mobilized to the Drill Areas within the Project Area (**Figure 2-1**). Equipment would be unloaded from lowboys onto the existing road at the unloading points and no improvements are needed to accommodate the unloading of equipment. Additionally, as discussed in **Section 3.19**, it's estimate that the Project would generate a maximum of 64 one-way vehicle trips per day (resulting from 32 total vehicles traveling to and from the Project Area), to accommodate employees and contractors traveling to and from the site to conduct onsite exploration activities. The addition of up to 32 additional vehicles on County roadways would not impede or impair an adopted emergency response plan or emergency evacuation plan/route.

Because the Project would not significantly increase off-site traffic above existing levels, and therefore not interfere with an adopted emergency response or evacuation plan, there would be no impacts.

- b) *Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Less Than Significant Impact: No, the Project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, due to slope, prevailing winds, or other factors. As discussed previously, the majority of the Project Area has been disturbed due to past mining and processing operations that have occurred historically. As such, both the Project site and adjacent areas are generally devoid of dense vegetation, and therefore pose minimal risk related to potential wildfires. Due to the lack of vegetation in the area, it is unlikely an uncontrolled wildfire would spread through the Project Area.

Additionally, none of existing of the proposed Project site features (slopes, structures, etc.) would exacerbate and/or increase the spread of wildfires in the area. Conversely, the developed Project site, would be maintained in an orderly manner and would continue to be clear of vegetation during exploratory drilling and ancillary operations. Existing slopes would also be maintained to ensure safety and prevent erosion.

As discussed in **Section 3.11**, SMP would implement site-specific fire prevention/protection actions. At a minimum these actions would include designating Project fire coordinators, providing adequate fire suppression equipment (including in vehicles), and establishing emergency response information relevant to the Project Area. SMP would also have a 2,000-gallon portable water storage tank onsite for dust suppression that would also be available to assist in firefighting operations. SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits.

In the event of an initial, small fire that does not create enough smoke, flame, and heat to prevent fighting the fire using a hand-held fire extinguisher or a small water hose, and providing no one would be

endangered, SMP personnel and/or contractors would use make a reasonable effort to extinguish the fire. If two or more people are present, one would fight the fire while one reports to 911 the size, type, and location in the event the fire grows out of control. Personnel would not directly engage any fire which is beyond the incipient stage (i.e., a fire which has progressed to the point it has substantially involved any structure/equipment).

Planning and prevention of fires is also managed through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training.

SMP would coordinate with local law enforcement and fire departments to provide 24-hour access as needed for emergency response. Both Imperial County as well as the nearby City of Yuma have fire departments which could service the Project site if needed. The fire station closest to the Project Area is Imperial County Fire Department Station #8 located at 518 Railroad Avenue in Winterhaven, California, approximately 14 miles away to the southeast. In the unlikely event of a wildfire, the Project site could be reach within a short timeframe.

Cellular telephone service is generally available within the Project Area site for emergency and other communications. A satellite phone would also be made available in case of emergencies. Contractors would be trained in proper emergency response, incident reporting, and general health and safety issues. All equipment would be maintained in a safe and orderly manner.

Lastly, in the unlikely event of a large wildfire within the Imperial County area that adversely impacts ambient air quality, the onsite manager may continue to limit operations if they feel worker safety is at risk. Thick smoke and debris may pose a risk to workers' respiratory health or may present a safety hazard if visibility is extremely poor. Although considered highly unlikely, if conditions presented such risks to onsite workers, field managers would have the authority to restrict outdoor operations.

For the reasons outlined above, the Project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, due to slope, prevailing winds, or other factors. Therefore, there would be less than significant impacts.

- c) Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less Than Significant Impacts: No, the Project would involve the installation or maintenance of infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. As discussed above, the Project consists of using existing access roads and improving some existing roads, as well as constructing a new temporary exploration drilling access road, helicopter landing pads, and drill pads to support exploration in seven Drill Areas. The Project mobilization, road construction, drilling, and borehole abandonment would be completed within 12 to 24 months of Project initiation. Drilling activities potentially would be completed in up to two drill areas at once. Once operations are complete, Project Areas to be reclaimed would be converted to land uses consistent with mining, recreational uses, and open space.

During all operations, SMP would maintain equipment and conduct activities in a safe and orderly manner. Due to the isolated nature and remote locations of the proposed access roads and drill sites, public security and safety are not a concern. As needed, certain access roads may be gated and/or locked to prevent public access, and the staging area would be secured with chain link fence and razor wire and locked with warning signs during brief periods of non-operation. All employees and contractors would be required to complete an employee safety training prior to commencement of operations.

None of the Project structures or features would exacerbate wildfire risks. As discussed under CEQA Criteria a) and b) above, SMP would implement site-specific fire prevention/protection actions throughout the life of the Project. SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits.

Planning and prevention of fires is also managed through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training. The components of the staging area are discussed in **Section 2.1**.

As discussed in **Section 3.11**, SMP would implement Spill Contingency Plan that complies with federal and state regulations for storage and handling of oil at industrial facilities (40 CFR Part 112 and California Health and Safety Code Chapter 6.67, Section 25270). The Spill Contingency Plan would include a description of the regulated materials stored at the site, discharge prevention measures (e.g., secondary and general containment, fueling transfer procedures, etc.), drainage control to ensure spill containment, and spill response and clean up procedures. It would also include spill reporting procedures, training, and periodic updates to the plan. Adherence to Spill Contingency Plan and other safety measures would mitigate the potential for fires due to hazardous releases during equipment fueling and maintenance. It would also include spill reporting procedures, training, and periodic updates to the plan. Adherence to SMP's Spill Contingency Plan would mitigate the potential for fires due to hazardous releases during equipment fueling and maintenance. The BMPs, operating practices and other environmental protection measures required by the federal, state and local Certified Unified Program Agency (CUPA) regulations would be incorporated into the Project to minimize potential impacts on the environment due to the routine transport, use, or disposal of hazardous materials.

For the reasons outlined above, the Project would not involve the installation or relocation of any significant utility infrastructure that may exacerbate fire risk. Project infrastructure would be maintained, and equipment fueling and maintenance activities would be conducted in accordance with the appropriate safety and spill prevention plans and procedures found therein. For these reasons, the Project would have no impacts in terms of potential to generate onsite fires due to concerns related to infrastructure.

d) Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact: No, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. As discussed previously, the majority of the Project Area is disturbed due to historical mining and processing operations. Soils in the Project Area developed from weathered granitic rock and schistose rock substrates. The soils consist of extremely gravelly sands or gravelly loams with up to 90% coarse fragments. Soils within the Project Area are of two general types based on substrate and topographic position: residual soil material weathered in place on slopes and ridges; and deeper alluvial soils transported by water and gravity to toe slopes, washes and outwash fans. The soils within the Project Area also contain large areas of disturbance from previous mining and reclamation activities.

Other than minimal slopes within the historical excavation pit, the Project site is relatively flat. Additionally, other than minimal clearing, grading, or grubbing to facilitate construction of the Oro Cruz Mine Portal, drill pads, access roads, and ancillary structures, no significant excavation or ground disturbing activities are proposed as part of the Project. As such, the Project would not increase the potential for landslides and erosion onsite. SMP would implement BMPs for erosion and sediment control measures that would be identified in the BLM approved SWPPP, and the effectiveness of erosion control measures would

be monitored throughout the duration of the Project. SMP would also follow all erosion and sediment control measures identified in the Plan (SMP 2021) and Reclamation Plan (Sespe 2022).

Additionally, according to the California DOC’s Landslide Map Index and relevant exhibits within the Imperial County General Plan (Imperial County 2015), specifically the Seismic and Public Safety Element, the Project site is not located in an area with known slope instability and/or that is prone to mudslides.

As discussed under CEQA Criteria b) above, implementation of the Project would not increase the risk of downstream flooding or landslides in the event of an upstream wildfire. Conversely, any existing or proposed onsite slopes and topography would be maintained in a safe, secure and stable manner. None of the Project aboveground features or structures would redirect uncontrolled flood or landslide flows due to upstream fire instability.

For the reasons outlined, the Project would have no new impacts related to runoff, post-fire slope instability, or drainage changes, and there would be no impacts.

3.25 *Mandatory Findings of Significance (CEQA)*

Table 3-39 provides Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

Table 3-39 Mandatory Findings of Significance

Significance Criteria		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, eliminate tribal cultural resources or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) *Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less Than Significant Impact: No, the Project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. As discussed above, the Project is an exploratory drilling project, that would occur entirely within an area disturbed by historical mining activities. The majority of the Project Area has been disturbed due to these historical mining operations.

Additionally, no areas with significant natural vegetation and/or habitat would be disturbed as a result of the Project. Based on the discussions in **Section 3.23** and with implementation of the PDFs described in **Appendix F**, the Project would have no significant impacts to threatened, endangered, candidate, or special status species. The proposed Project would also not have the potential to substantially reduce the habitat of fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

Lastly, as discussed in **Section 3.8**, the Project would not have the potential to substantially adversely affect previously unidentified archaeological resources or eliminate important examples of the major periods of California history or prehistory.

For the reasons outlined above, the Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory, and therefore the Project would have less than significant impacts.

- b) *Does the Project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Less Than Significant Impact: The Project does not have potential impacts that are individually limited, but cumulatively considerable. Based on the analysis contained in this CEQA IS, the proposed Project would not result in any significant and unmitigable impacts in any environmental categories. In all cases, effects associated with the Project would be limited to the existing Project Area/disturbance footprint and either result in no new impacts, less than significant impacts, or less than significant impacts with mitigation incorporated. As such, Project impacts are of such a negligible degree that they would not result in a significant contribution to any cumulative impacts. This is largely due to the fact that Project activities would not significantly alter the environment beyond the existing/baseline condition, and that Project activities would be short-term (12 to 24 months maximum), and the site would be fully reclaimed in accordance with SMARA once exploration activities are completed.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed Project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the Project-level. For example, if the construction of other projects in the area occurs at the same time as construction of the proposed Project,

combined noise and transportation impacts may be greater than at the project-level. However, the Project is located in a remote and undeveloped area of the Tumco mining district in the Cargo Muchacho Mountains, with no cumulative County projects are expected to be constructed within the vicinity of the Project Area. Additionally, given that the Project operations would not occur in close proximity to any residences or neighborhood communities, and the fact that Project activities would be short-term (12 to 24 months), the Project's impacts would not combine with the impacts of other projects to create cumulative construction- and/or operation-related impacts in resource areas such as air quality, noise, and transportation.

For these reasons, the incremental effects of the proposed Project would not be considerable when viewed in connection with the effects of past projects, current projects, or probable future projects, and the Project would have less than significant impacts.

- c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant Impact: Based on the analysis contained in this CEQA IS, the proposed Project does not exceed any significance thresholds or result in significant impacts in the environmental categories typically associated with indirect or direct effects to human beings, such as aesthetics, air quality, hazards and hazardous materials, noise, public services, or transportation. As discussed in **Section 3.3, Section 3.18, Section 3.11, Section 3.22, Section 3.15, Section 3.16, and Section 3.19** of this document, the proposed Project would not expose persons to the hazards of toxic air emissions, chemical or explosive materials, ground-shaking, flooding, noise, or transportation hazards. For these reasons, the proposed Project does not have a Mandatory Finding of Significance due to environmental effects that could cause substantial adverse effects on humans, and there would less than significant impacts.

4.0 Consultation, Coordination, and Public Participation

4.1 Consultation and Coordination

This section describes the specific actions taken by the BLM to consult and coordinate with Native American tribes and government agencies. Various federal laws require the BLM to consult with Native American tribes, the State Historic Preservation Office, the USFWS, and the EPA during the NEPA decision-making process.

4.1.1 USFWS Consultation

The BLM consulted with the USFWS pursuant to Section 7 of the ESA regarding presence of and potential impacts that could occur as a result of the Proposed Action to Mojave Desert tortoise, a threatened species designated by the ESA. The BLM prepared and submitted an Activity Request Form for the Project in accordance with the 2017 Programmatic Biological Opinion (Biological Opinion) for Activities in the CDCA (USFWS 2017), which was developed to provide guidance regarding the effects on federally listed desert tortoise and its critical habitat of existing and future actions likely to occur within the boundaries of the CDCA. The BLM further consulted with the USFWS on appropriate mitigation measures to be implemented under the Proposed Action to minimize impacts to Mojave Desert tortoise pursuant to requirements under the Biological Opinion. The USFWS did not request additional measures to be implemented in addition to the PDFs committed to by SMP, the CMAs required under the DRECPLUPA (BLM 2016), or the BLM-required mitigation measures, all included as **Appendix F**.

4.1.2 Government-to-Government and SHPO Consultation

The BLM contacted the following tribal entities during the EA process to participate in identifying potential areas of concern that may be associated with the Project in accordance with Section 106 of the NHPA:

- Barona Band of Missions Indians
- Campo Band of Mission Indians
- Cocopah Indian Tribe
- Colorado River Indian Tribes
- Ewiiapaayp Band of Kumeyaay Indians
- Fort Yuma Quechan Indian Tribe
- Iipay Nation of Santa Ysabel
- Jamul Indian Village
- Kwaaymii Laguna Band of Indians
- La Posta Band of Kumeyaay Indians
- Manzanita Band of Kumeyaay Indians
- Mesa Grande Band of Mission Indians
- San Pasqual Band of Diegueño Indians
- Sycuan Band of Kumeyaay Nation
- Torres-Martinez Desert Cahuilla Indians
- Viejas Band of Kumeyaay Indians

On March 31, 2021, the BLM sent letters to the Tribes initiating formal consultation on the Amended Plan, in accordance with the NHPA and other legal authorities. Consultation with the SHPO was initiated by letter dated April 16, 2021. The BLM held a formal consultation meeting with the Fort Yuma Quechan Indian Tribe on July 12, 2021. The BLM sent a letter to the Tribes on August 10, 2021 for review of the Class III Cultural Resources Inventory Work Plan and to explain the Physical APE. The BLM sent the

Tribes an email on March 4, 2022 to notify and provide a link to the News Release about the initiation of the scoping period. On August 23, 2022, the BLM sent the Tribes a letter discussing the expansion of the APE to include the VAA APE for indirect effects, presenting the Class III Cultural Resource Inventory Report for review and comment, and inviting the Tribes to the September 20, 2022 Field Visit and the September 21, 2022 virtual meeting. The BLM conducted a site visit on September 20, 2022, attended by the Fort Yuma Quechan Indian Tribe and the Campo Band of Mission Indians. The BLM held a virtual follow-up meeting to discuss cultural resources inventory findings and the site visit on September 21, 2022, at which representatives of the Fort Yuma Quechan Indian Tribe, the Campo Band of Diegueño Mission Indians, and the San Pasqual Band of Diegueño Indians participated. The BLM conducted another site visit on September 27, 2022, with representatives from the Fort Yuma Quechan Indian Tribe to visit potential sites of concern that were identified within the APEs during the first site visit and virtual meeting. On September 28, 2022, the BLM sent an email to the Tribes extending the Comment period on the Class III Cultural Resources Inventory report and the APE to October 17, 2022. A meeting was held on November 9, 2022 with the Fort Yuma Quechan Indian Tribe to further discuss concerns on a potential TCP in the vicinity of the Project Area. On November 11, 2023, the BLM notified all tribes of publication of the EA and the 30-day comment period. Four additional meetings were held with the Fort Yuma Quechan Indian Tribe for the BLM to gain additional information regarding cultural resources and the TCP on January 10, 2023 (virtual), January 30, 2023 (virtual), February 14, 2023 (in-person) and May 12, 2023 (virtual). One virtual meeting was held with the Campo Band of Kumeyaay Indians on May 26, 2023. The BLM provided its proposed Section 106 of the NHPA eligibility determinations and findings of effect to all Tribes for a 30-day consultation period by letter dated April 13, 2023. The BLM subsequently provided these same findings to the SHPO for concurrence and the BLM received a response letter dated June 28, 2023. The Section 106 consultation process is now complete however, consultation with local tribal governments will continue throughout the life of the Project.

4.1.3 Imperial County Consultation

As required by CEQA under Assembly Bill 52, Imperial County also conducted consultation with tribes in the vicinity of the Project. A letter initiating consultation under CEQA was sent to the Fort Yuma Quechan Indian Tribe on September 9, 2021. Because the Fort Yuma Quechan Indian Tribe is the only Native American tribe that has claimed traditional and cultural affiliation with the Project Area, they were the only tribal entity required to be notified of the Project pursuant to AB 52. No response to the AB 52 consultation letter was received by Imperial County.

4.2 Public Participation

4.2.1 Public Scoping

On March 4, 2022, a BLM press release was issued for the Project for a 30-day public scoping period, which ended on April 4, 2022. Six public scoping comment letters were received, one from a federal agency and five from public interest organizations. Issues identified during public scoping and internal scoping were documented in the scoping report (BLM 2022) and included in this document for NEPA analysis across the resources analyzed within Chapter 3. Overall, the majority of issues identified during public scoping requested analysis of air quality and Project emissions; development of a broad range of action alternatives, including alternatives for access and timing of the Project; measures to minimize impacts to cultural resources and Tribal concerns, and conducting Section 106 of the NHPA consultation with Tribes; development of a clear purpose and need and the level of NEPA analysis for compliance with land use plans; development of PDFs within the Plan for monitoring and exclusionary fencing to protect wildlife species; and development of mitigation measures specifically for desert tortoise individuals and habitat.

4.2.2 Public Comment Period

BLM Public Comment Period

The BLM held a 30-day public comment period from November 16, 2022 through December 16, 2022. A virtual public meeting was held via Zoom Webinar on November 30, 2022. During this time, the document was available on the BLM's ePlanning website and public comments could be submitted through the ePlanning website, by email, by mail, or by fax to the BLM ECFO. The BLM received 373 public comment letters during the comment period. Public comments received did not result in substantive revisions to this document. All public comments are included as **Appendix I** within a comment response matrix.

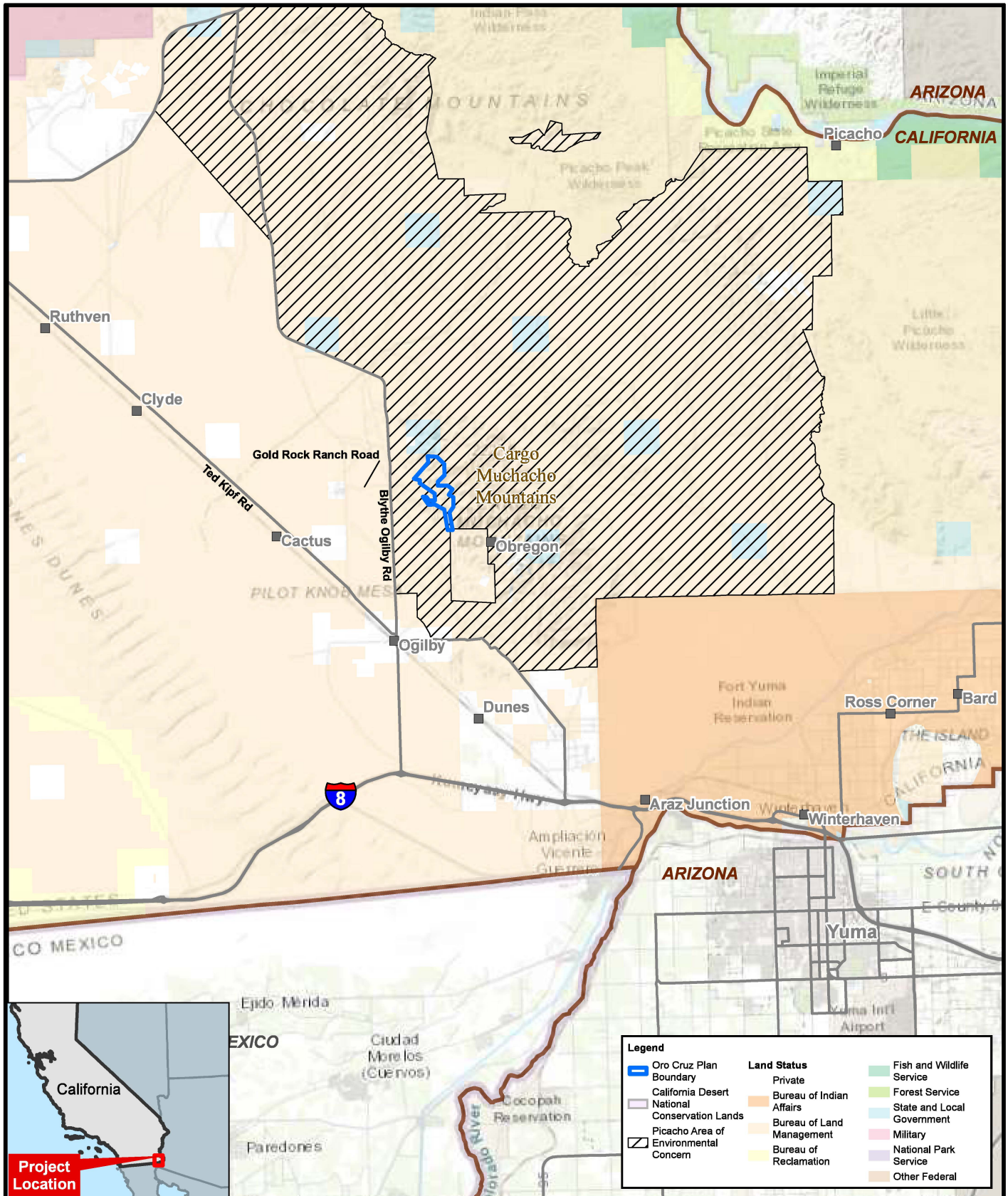
Imperial County Public Circulation Period

Imperial County presented the Project Initial Study results during an Environmental Evaluation Committee (EEC) hearing on November 17, 2022. The results of the EEC hearing led to the determination that an MND was the appropriate determination for the Project. Following the EEC hearing, Imperial County issued a Notice of Intent to adopt an MND and held a public comment period beginning on December 15, 2022 and concluded on January 20, 2023. Imperial County received two comment letters during the public circulation period. Two of the comment letters submitted to the BLM under the public comment period discussed above were submitted as joint NEPA and CEQA public comment letters to both the BLM and Imperial County. A Public Planning Commission hearing is scheduled for September 13, 2023 to present the Project, provide the results of the public comment responses, and certify the findings presented in the MND. All public comments are included as **Appendix I** within a comment response matrix.

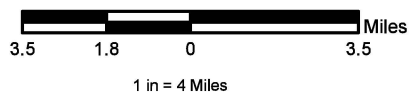
4.3 *Preparation of This EA/IS*

A complete list of preparers including from the BLM, Imperial County, and third-party NEPA and CEQA contractors is provided as **Appendix J**.

FIGURES



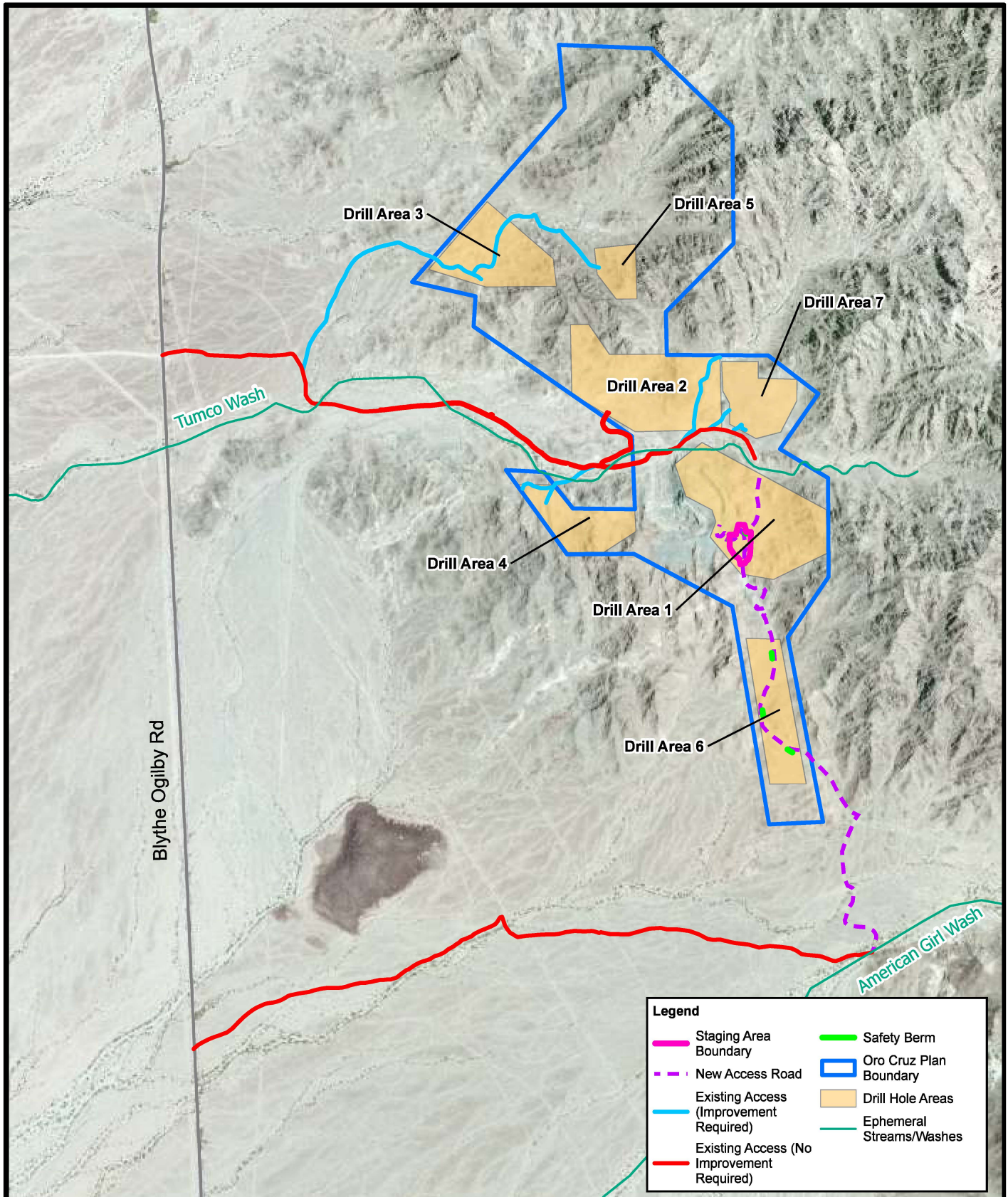
**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



PROJECT LOCATION

**FIGURE 1-1
2023-01-04**

REVISION
A



Legend	
	Staging Area Boundary
	New Access Road
	Existing Access (Improvement Required)
	Existing Access (No Improvement Required)
	Safety Berm
	Oro Cruz Plan Boundary
	Drill Hole Areas
	Ephemeral Streams/Washes



**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



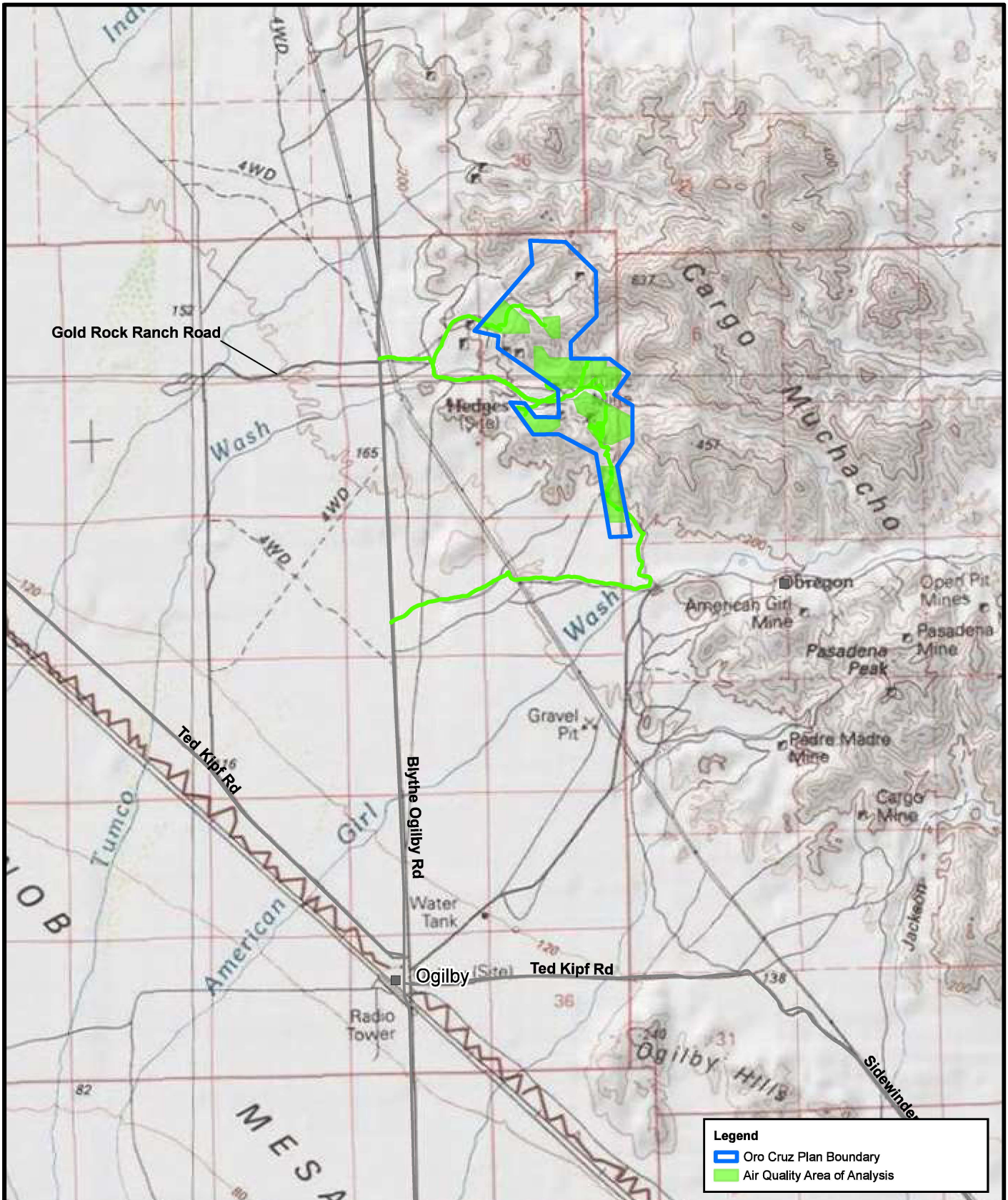
PROPOSED ACTION

FIGURE 2-1

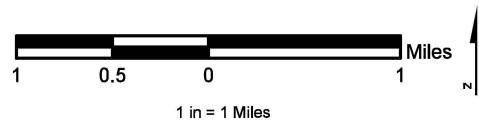
2023-01-04

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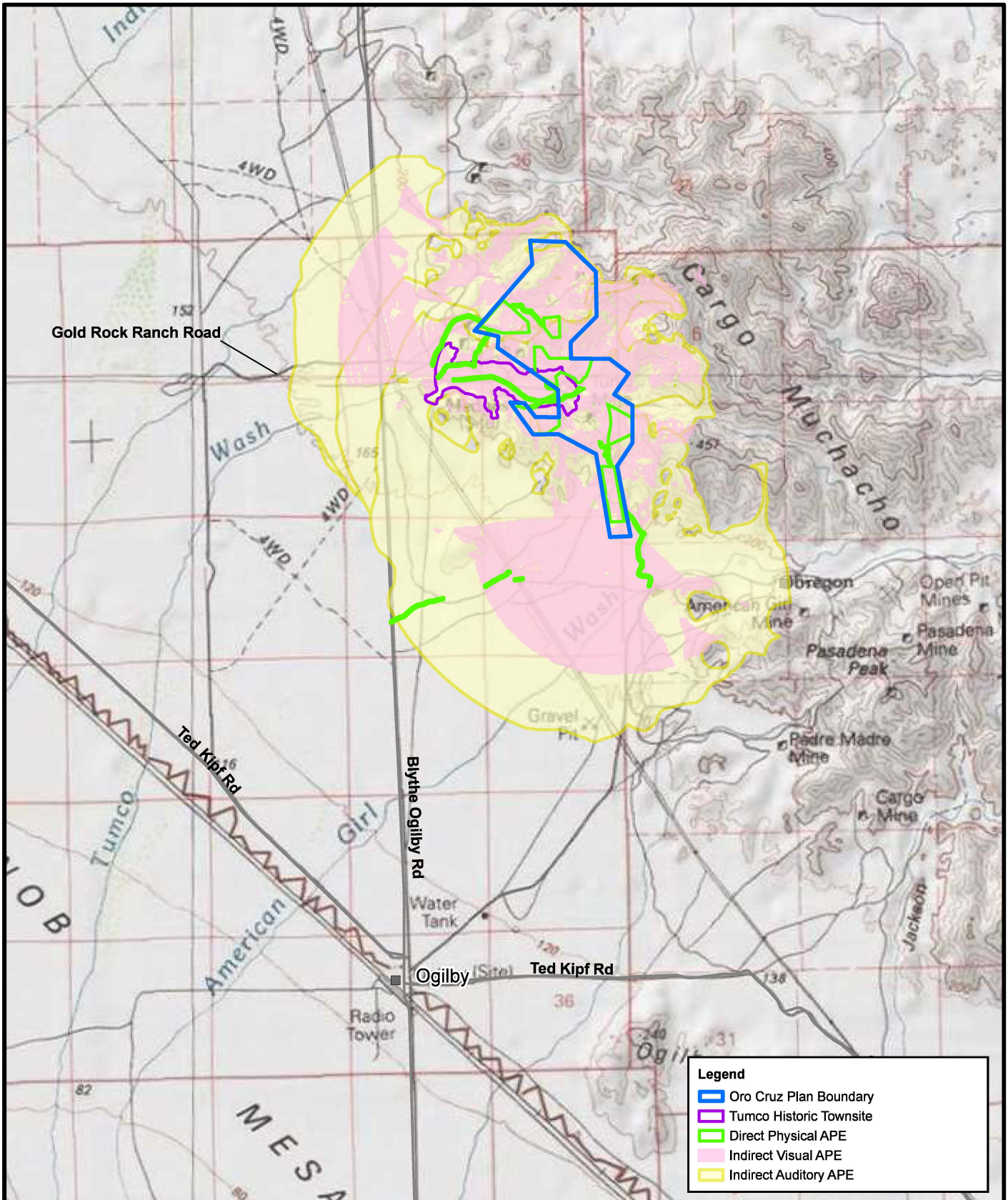


**AIR QUALITY AND CLIMATE
CHANGE AREA OF ANALYSIS**

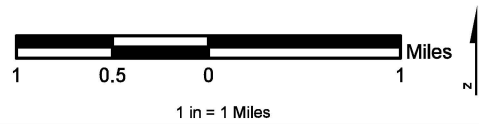
FIGURE 3-1
2023-01-04

REVISION
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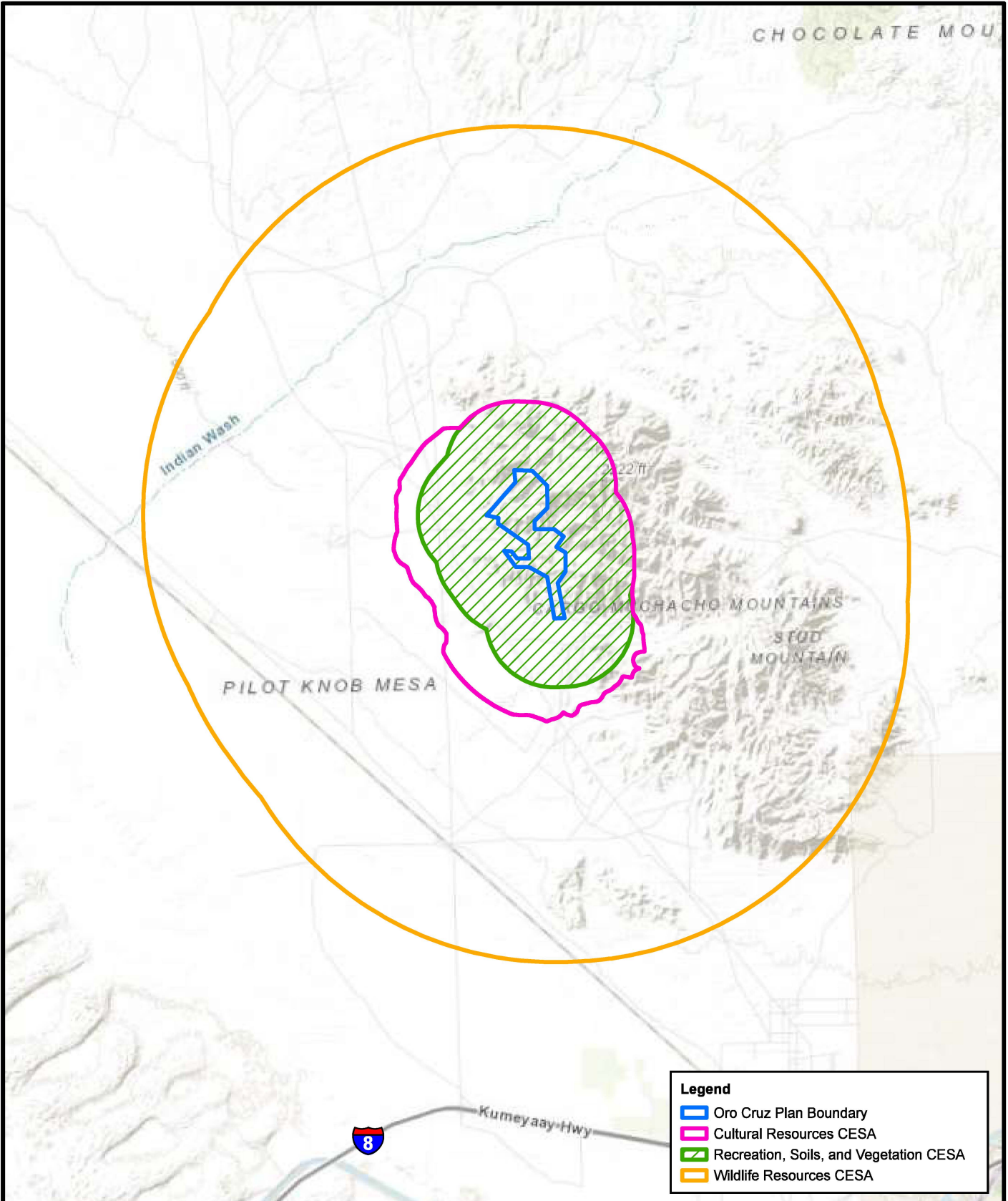
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MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



**CULTURAL RESOURCES AND
NATIVE AMERICAN RELIGIOUS
CONCERNS AND TRADITIONAL
VALUES AREA OF ANALYSIS**

FIGURE 3-2	REVISION
2023-01-04	A

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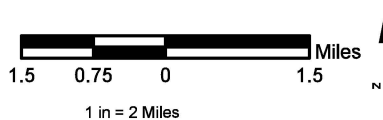


Legend

- ▭ Oro Cruz Plan Boundary
- ▭ Cultural Resources CESA
- ▨ Recreation, Soils, and Vegetation CESA
- ▭ Wildlife Resources CESA



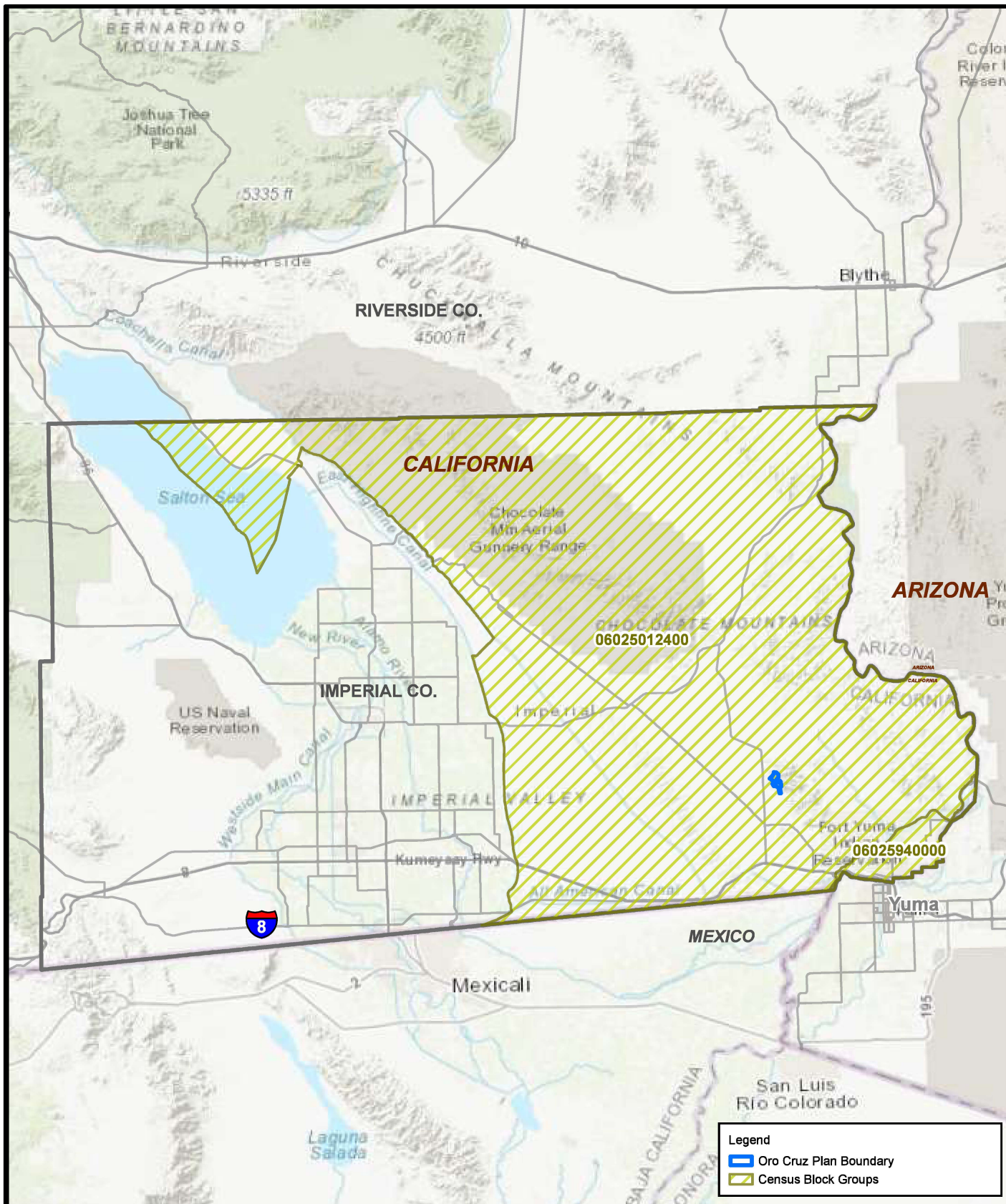
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MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



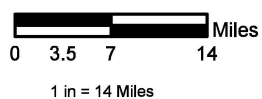
**CUMULATIVE EFFECTS
STUDY AREAS**

FIGURE 3-3
2023-01-04

REVISION
A



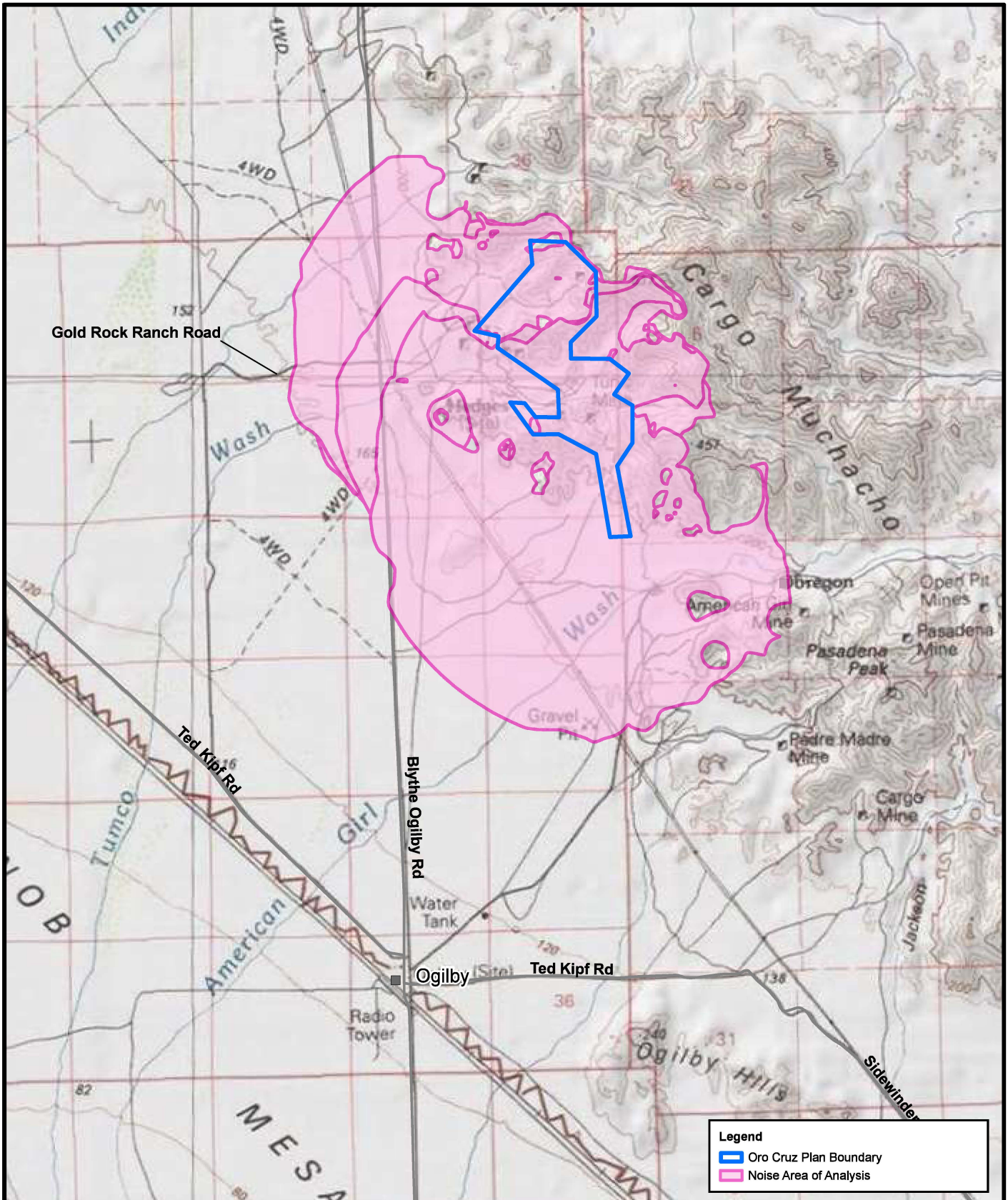
**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



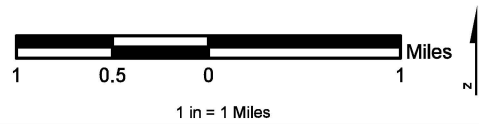
**ENVIRONMENTAL JUSTICE
AREA OF ANALYSIS**

FIGURE 3-4
2023-01-04

REVISION
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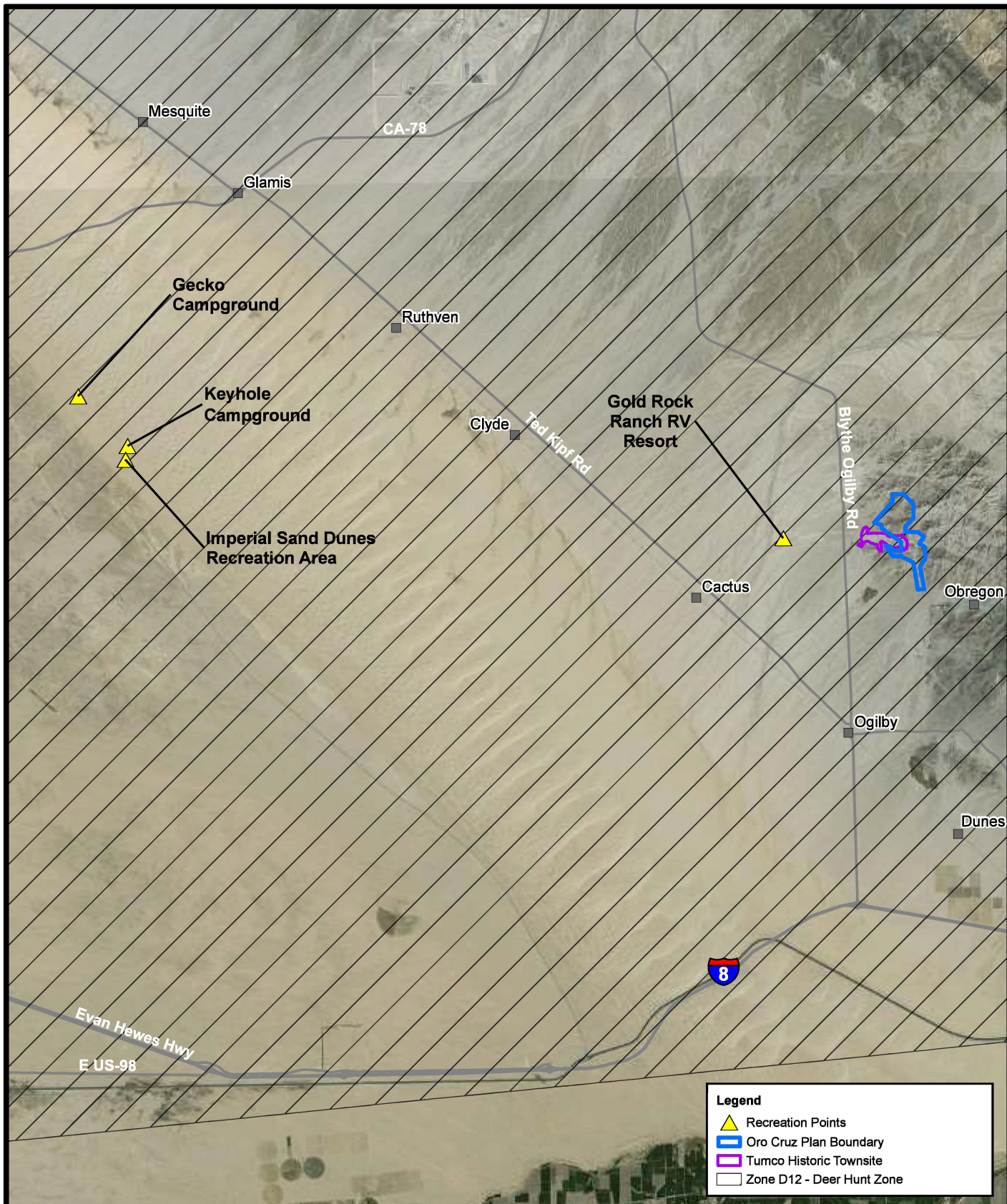


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ORO CRUZ EXPLORATION PROJECT**

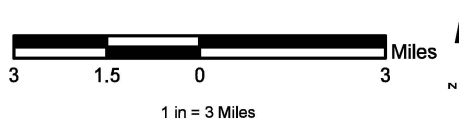


NOISE AREA OF ANALYSIS	
FIGURE 3-5	REVISION
2023-01-04	A

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**ORO CRUZ MINE PROPERTY
EXPLORATION PROJECT**



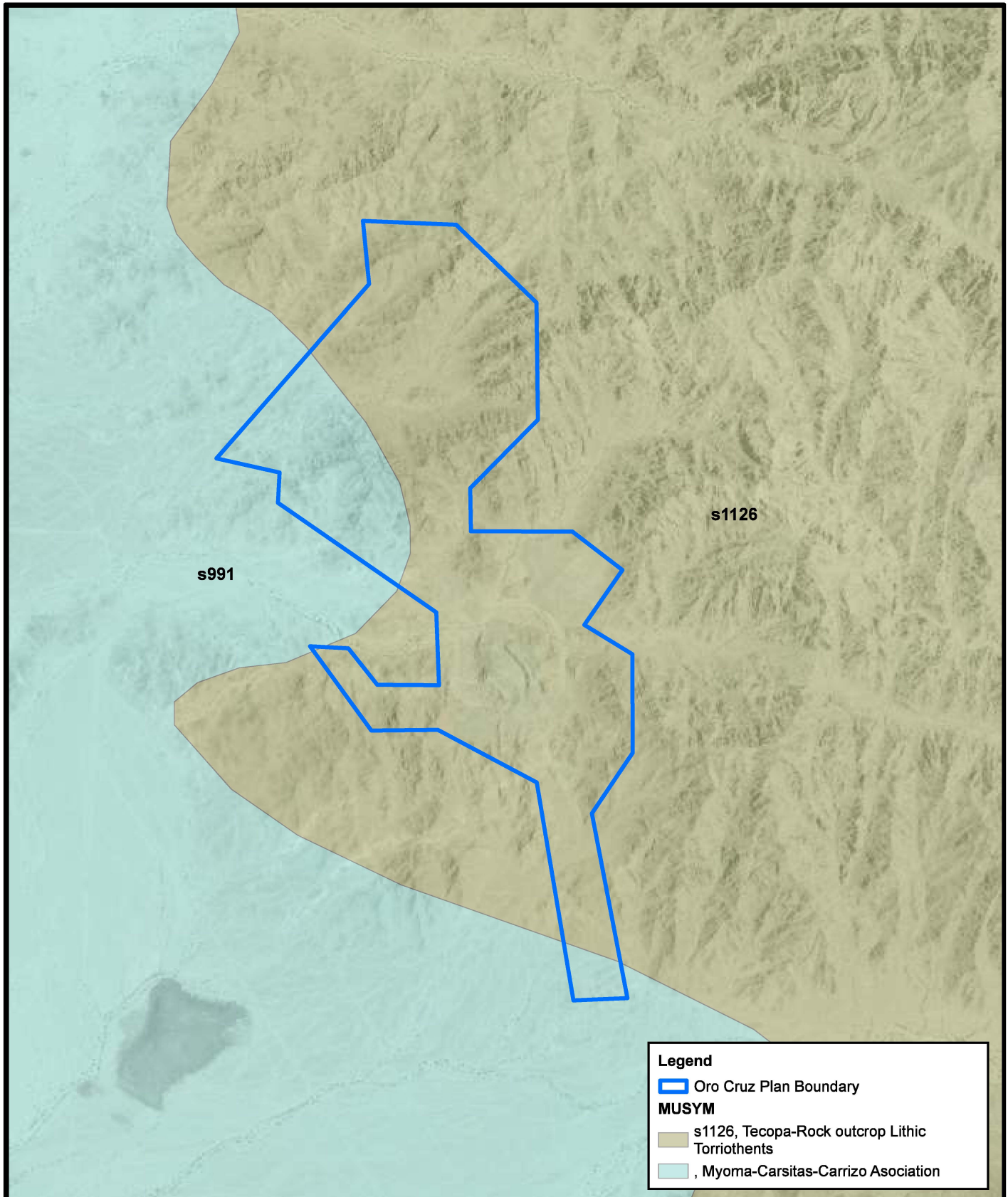
**RECREATION
AREA OF ANALYSIS**

FIGURE 3-6

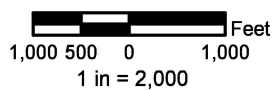
2023-01-04

REVISION

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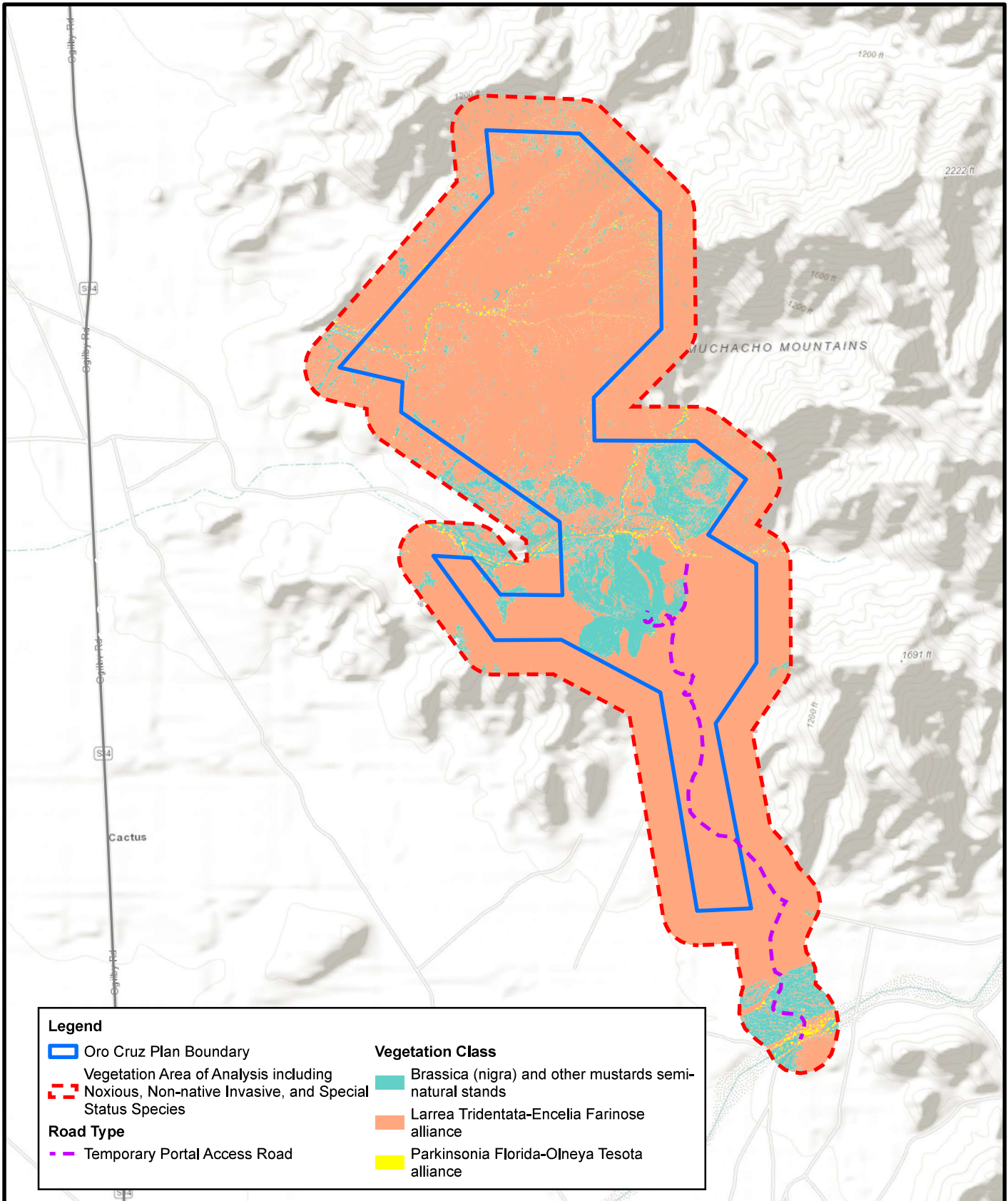
**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



SOILS AREA OF ANALYSIS

FIGURE 3-7
2023-01-04

REVISION
A



Legend	
Oro Cruz Plan Boundary	Vegetation Class
Vegetation Area of Analysis including Noxious, Non-native Invasive, and Special Status Species	Brassica (nigra) and other mustards semi-natural stands
Road Type	Larrea Tridentata-Encelia Farinose alliance
Temporary Portal Access Road	Parkinsonia Florida-Olneya Tesota alliance



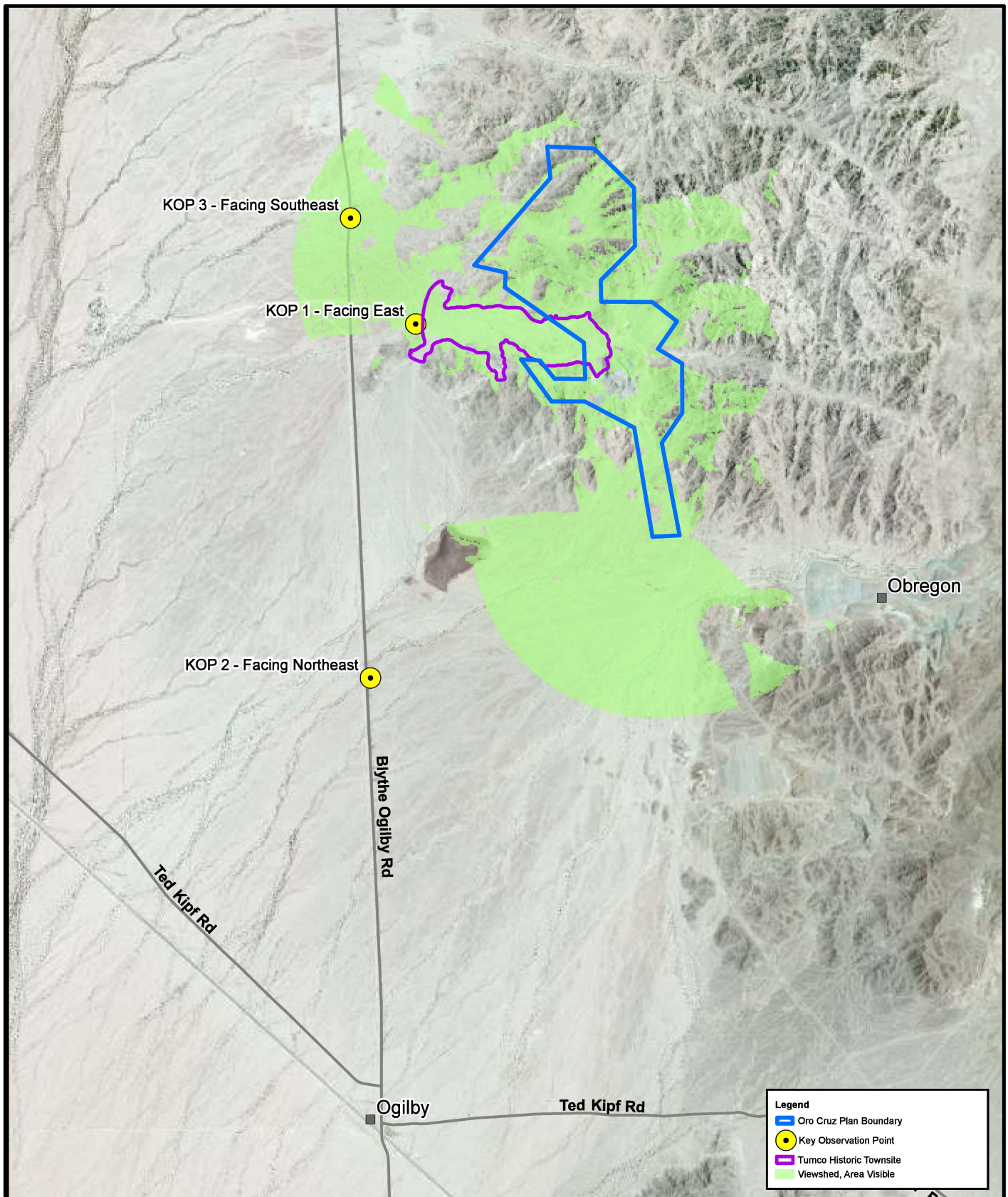
**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**

1,000 500 0 1,000 Feet
 1:24,000

VEGETATION AREA OF ANALYSIS

FIGURE 3-8	REVISION
2023-03-21	A

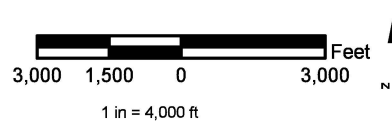
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Legend	
▬	Oro Cruz Plan Boundary
●	Key Observation Point
▬	Tumco Historic Townsite
■	Viewshed, Area Visible



**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**

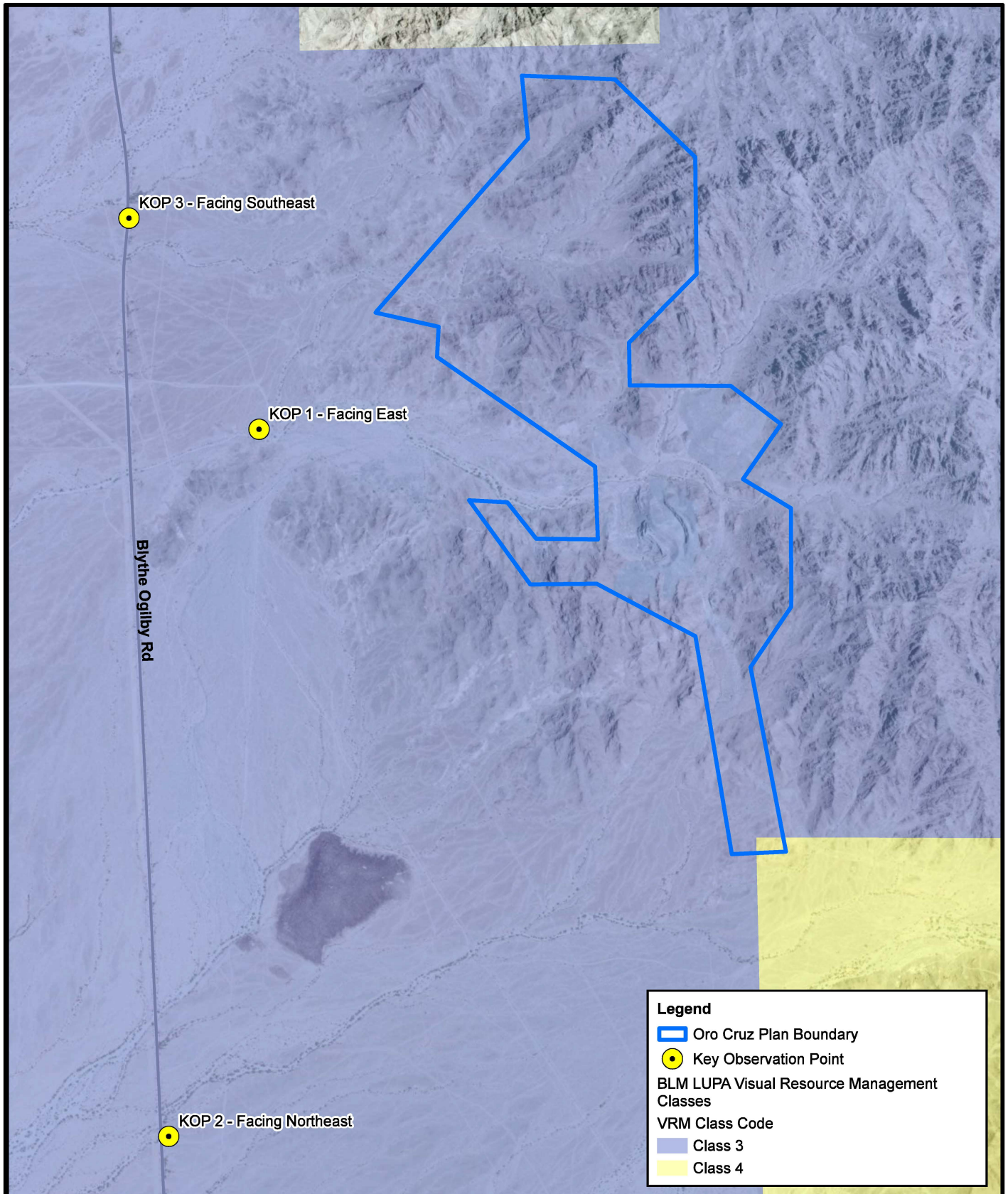


**VISUAL RESOURCES
AREA OF ANALYSIS**

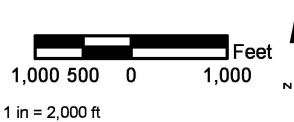
FIGURE 3-9
2023-01-04

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**ENVIRONMENTAL ASSESSMENT
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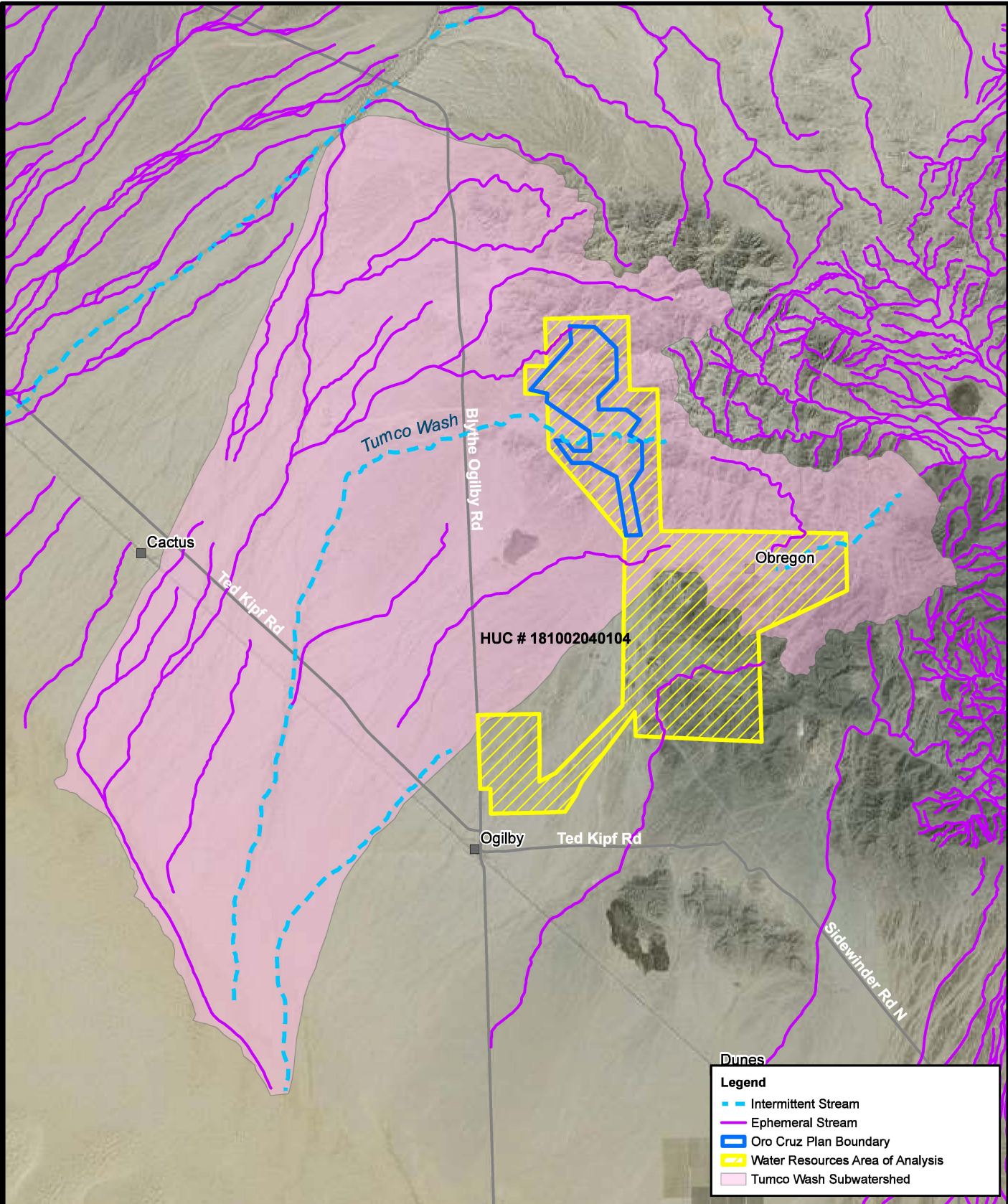
**VISUAL RESOURCES INVENTORY
CLASSES WITHIN THE PROJECT
AREA**

FIGURE 3-10

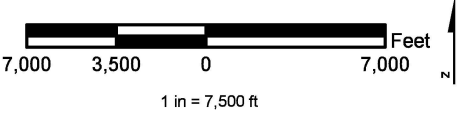
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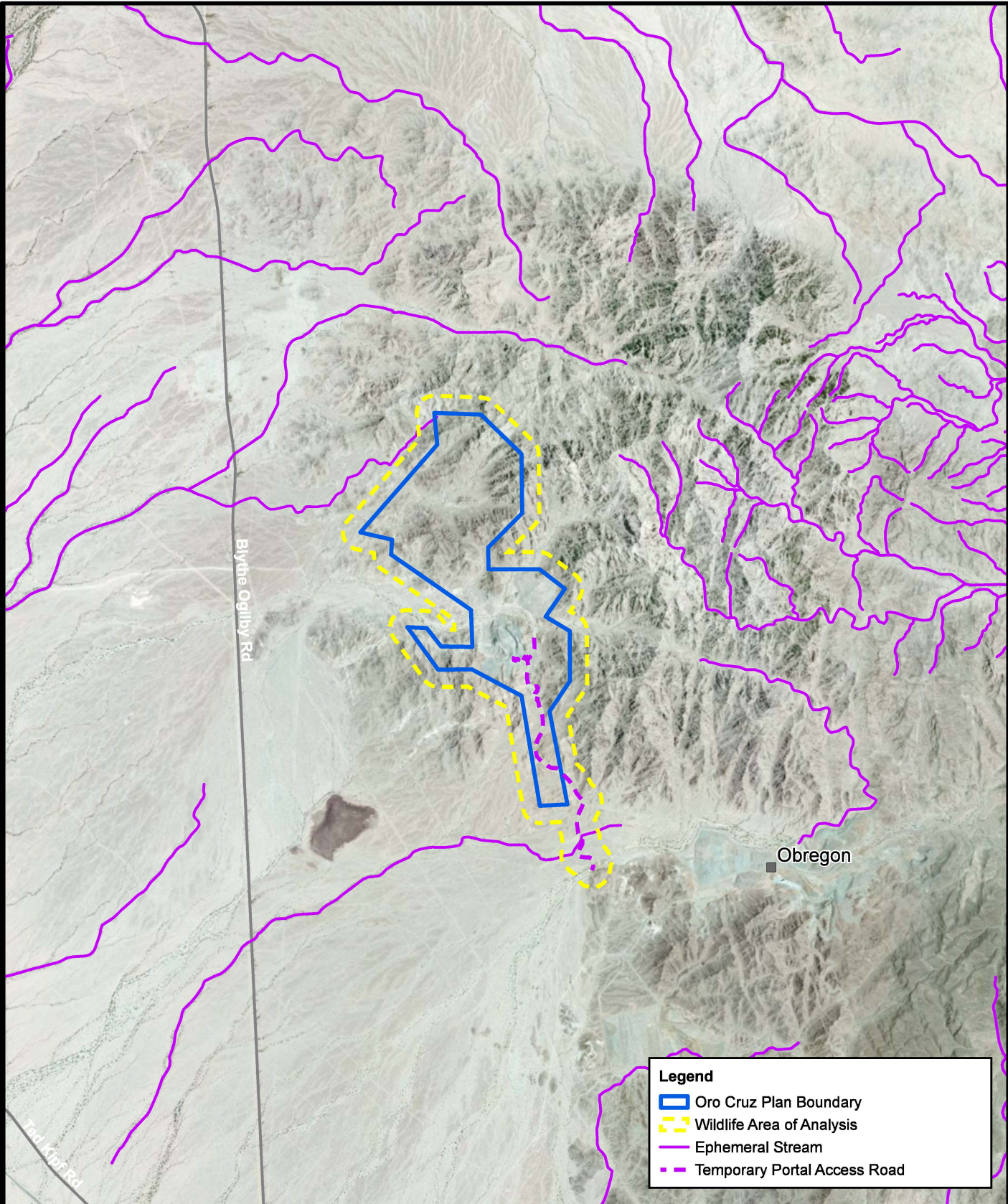


**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



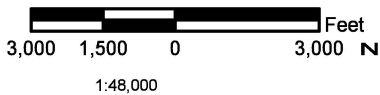
WATER RESOURCES AREA OF ANALYSIS	
FIGURE 3-11	REVISION
2023-01-04	A

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BLM California
Desert District
El Centro Field Office

**ORO CRUZ MINE PROPERTY
EXPLORATION PROJECT EA**



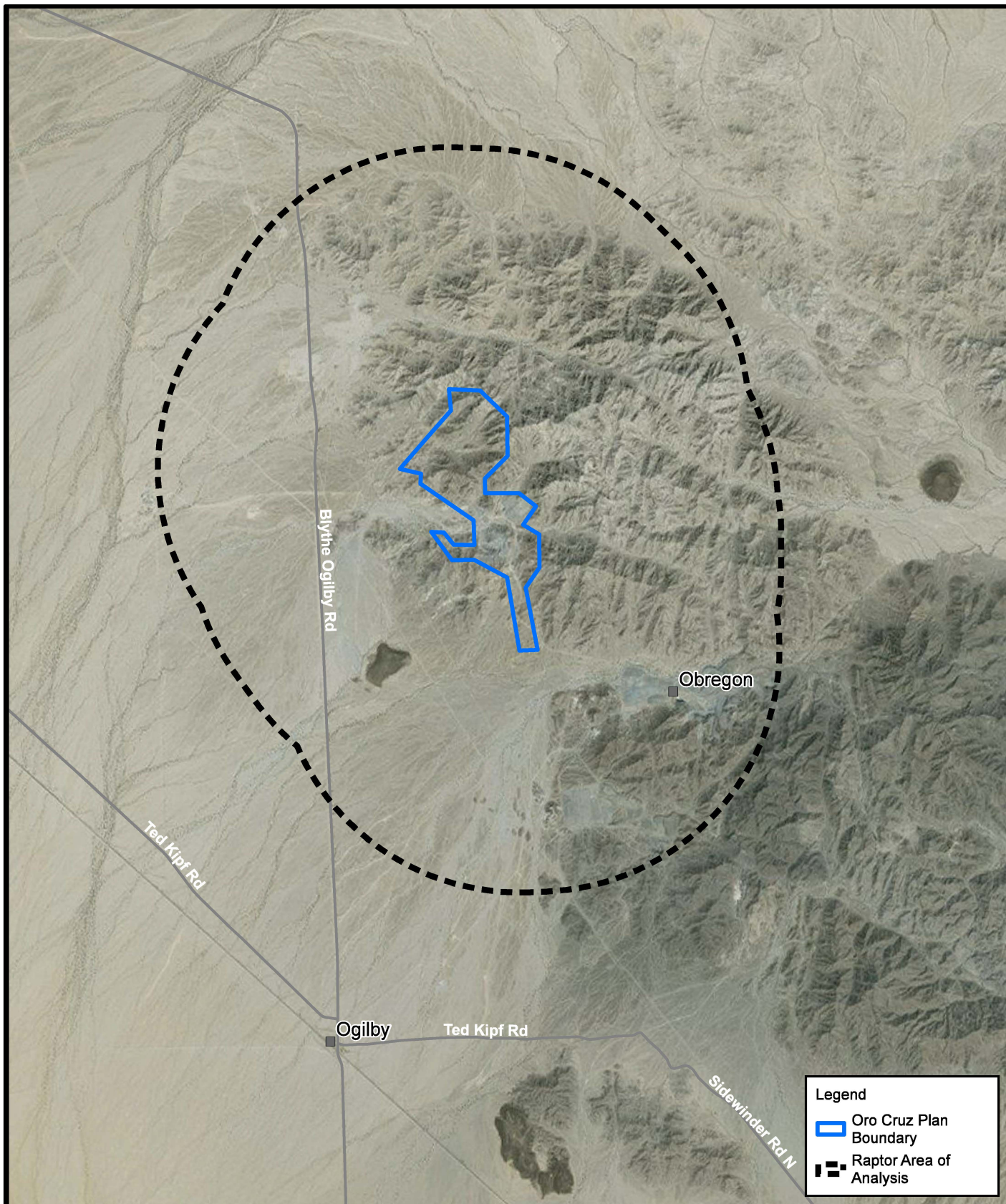
WILDLIFE AREA OF ANALYSIS

FIGURE 3-12

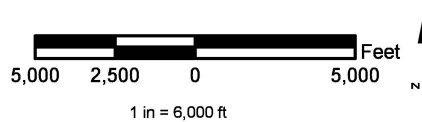
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**ENVIRONMENTAL ASSESSMENT
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ORO CRUZ EXPLORATION PROJECT**



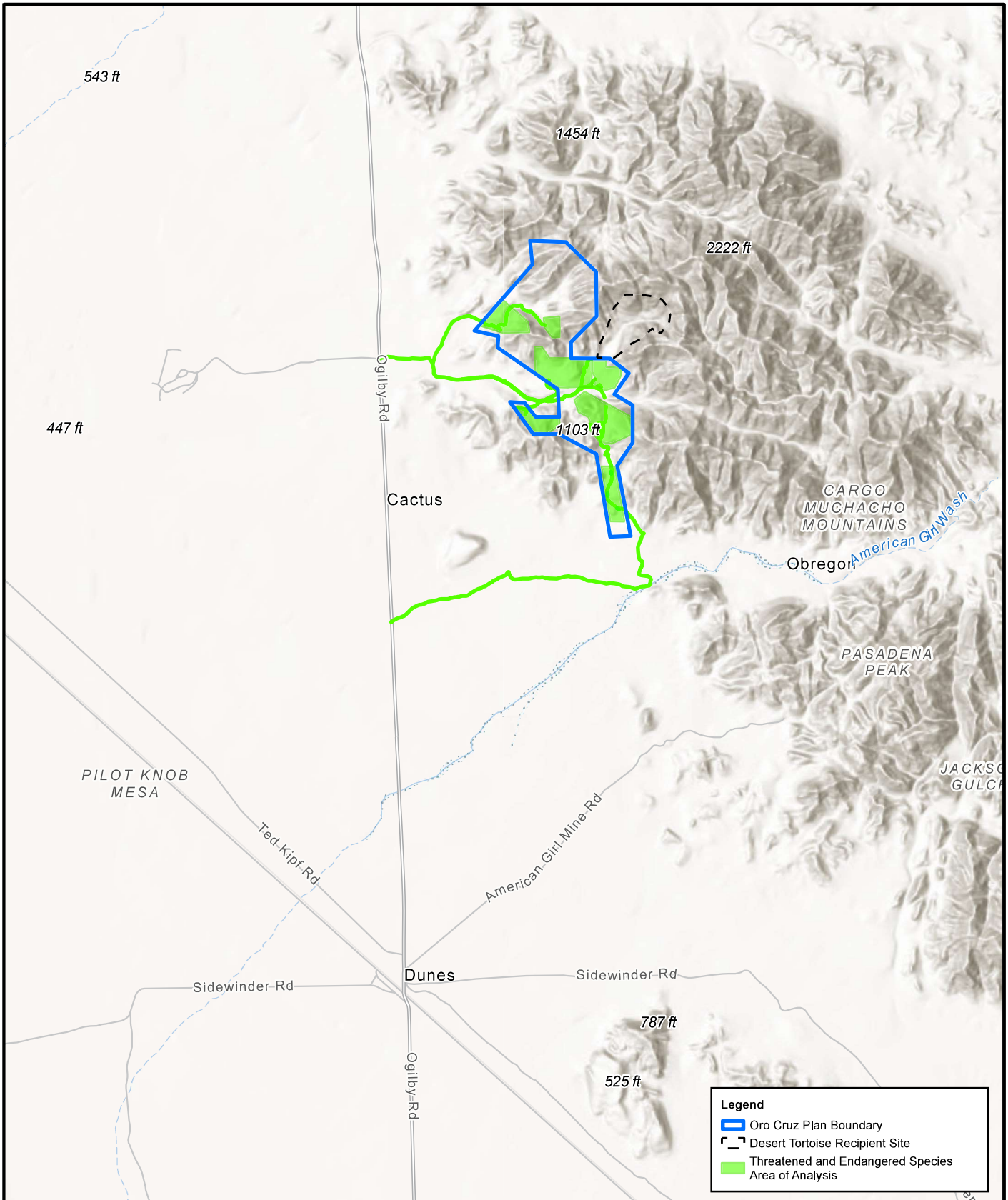
RAPTOR AREA OF ANALYSIS

FIGURE 3-13

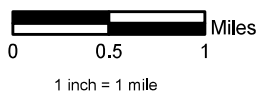
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**ENVIRONMENTAL ASSESSMENT
MITIGATED NEGATIVE DECLARATION
ORO CRUZ EXPLORATION PROJECT**



**THREATENED AND ENDANGERED
SPECIES AREA OF ANALYSIS**

FIGURE 3-14

2023-03-23

REVISION

A

Appendix A: Plan of Operations

SIXTH REVISED DRAFT
SMP GOLD CORP.
EXISTING ORO CRUZ PIT AREA
EXPLORATION PLAN OF OPERATIONS
BLM CASE FILE NUMBER CACA-059124

Prepared for: Bureau of Land Management

Prepared by: SMP Gold Corp.

Date: Sixth Revision, January 30, 2023

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Figure 3f. Drill Area 5 - BLM Claim Boundary
Figure 3g. Drill Area 6 - BLM Claim Boundary
Figure 3h. Drill Area 7 - BLM Claim Boundary
Figure 4. Portal Staging Area Layout
Figure 5. Typical Road-Accessed Drill Site Layout

I. INTRODUCTION AND BACKGROUND

SMP Gold Corp. (SMP) proposes mineral exploration activities at the Oro Cruz Pit Area (the Project) within lands administered by the Bureau of Land Management (BLM), northwest of Yuma, Arizona, in Imperial County, California. The Project is located on previously mined BLM lands within Township 15 South, Range 20 East, Sections 1, 2, 12 and 13, and Township 15 South, Range 21 East, Section 6, 7 and 18 (the Project Area, **Figures 1 and 2**) that are managed by the El Centro Field Office. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

Activities would be conducted in accordance with BLM regulations published in the Code of Federal Regulations (CFR) at 43 CFR part 3809 (BLM 2016). Pursuant to 43 CFR 3809.21 and 3809.301, the Project would result in minor surface reworking of previously mined and disturbed areas, and measures would be taken to prevent unnecessary or undue degradation during Project operations. The Project would comply with the performance standards in 43 CFR 3809.420 and other Federal and state laws related to environmental protection and protection of cultural resources, and the Project would attain the stated level of protection and reclamation required by specific laws in the California Desert Conservation Area. The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations.

The Project is described in this Draft Exploration Plan of Operations (Plan).

2. CLAIMANT AND OPERATOR INFORMATION

Claimant:

Lincoln Gold US Corp.
912 N. Division Street
Carson City, Nevada 89703

ADGIS, Inc.
210 South Rock Blvd.
Reno, Nevada 89502

Operator:

SMP Gold Corp.
912 N. Division Street
Carson City, Nevada 89703

Operator Employer Identification Number:

85-1734310

Contact:

David Tupper
Vice President - Exploration
Phone: 604-802-0334
Email: david@smp.gold

Drilling Contractor:

To be determined

Subject Claims:

See Table 1.

3. PROJECT AREA DESCRIPTION

The Project Area has been previously disturbed by significant mining activities. Current surrounding land uses include prospecting and recreation. The Tumco Historic Mine is a historic and recreational area managed by the BLM for uses such as hiking, prospecting, wildlife viewing, and photography within western portions of the Project Area.

Soils on the site vary between rocky, hard-packed areas similar to desert pavement to pockets of loose sand. Soils in and adjacent to the existing Oro Cruz mine site are disturbed. Within the Project Area, elevations range from 600 feet (ft) above sea level (asl) to 800 ft asl. Vegetation within the Project Area is sparse consisting of primarily Creosote Bush Series, and Sonoran Creosote Scrub (Brown and Lowe 1994); dominant plant species include creosote bush (*Larrea tridentata*), burro bush (*Ambrosia dumosa*) and numerous annual and perennial scrubs and grasses (Tetra Tech 2011).

The Project Area occurs within the Picacho ACEC. The BLM's goals for the management of this ACEC are to enhance, protect and preserve the cultural and biological resources while providing compatible recreational opportunities; and to maintain desert tortoise habitat connectivity between the Chuckwalla Desert Wildlife Management/ACEC/Critical Habitat Units and high value climate refugia for wildlife (BLM 2016).

4. PLANNED EXPLORATION PROGRAM

The Project consists of using existing access roads, constructing approximately 10,410 ft (2.0 miles) of existing road improvements, approximately 6.2 miles of new 12-foot-wide temporary exploration drilling access road, up to 8 helicopter landing pads, and 65 drill pads to support exploration in seven Drill Areas; and constructing approximately 9,640 linear ft (1.8 miles) of new, 15-foot-wide access road and 2.8-acre staging area for access to the Oro Cruz Portal on BLM lands (**Figures 2, 3a and**

3b). The 2.8-acre staging area at the Oro Cruz Portal would be used for exploration within the proposed Drill Areas and underground mine area and resources. The area would house a 1,000-gallon diesel fuel tank and fueling station; helicopter landing area with 300-gallon Jet fuel tank and refueling station; two diesel-powered generators (125 kW or equivalent); two portable compressors (375 Series or equivalent); parking for access to the underground mine; small office and dry shop; and laydown areas for exploration drilling (**Figure 4**). Access to the portal staging area would be gated to prevent public access during Project implementation and reclamation.

4.1. SCHEDULE OF ACTIVITIES

The Project is proposed to begin upon completion of all BLM and Imperial County coordination, permitting and bonding. The Project mobilization, road construction, drilling, and borehole abandonment would be completed within 12 to 24 months. Activities at the Oro Cruz Mine Portal and project drilling activities in Drill Area 1 would be implemented first. Drilling activities potentially would be completed in up to two drill areas at once. Drill areas would be potentially revisited a second and third time based on the findings. Project reclamation would be completed concurrently for exploration drilling activities and monitoring for the success of reclamation of those areas would be completed within 5 years of Project implementation. Activities at the portal staging area and access route for underground investigations may extend beyond the 12- to 24- month exploration activities; but reclamation and monitoring of those areas would also be completed within 5 years of Project implementation.

4.2. ACCESS

Existing access roads would be used to the extent possible but some new access roads would be required across BLM land (**Figures 2 and 3a-3h**). The existing access routes that would be used are BLM-authorized routes. The proposed drill sites and new access roads would be mostly located within previously mined and disturbed areas. Interstate 8 and Ogilby Road (State Route 34) and Gold Rock Ranch Road are the primary roads that would be used for access (**Figures 2 and 3a**). Drilling equipment would be trucked to one of two truck unload points and then would be mobilized to the Drill Areas within the Project Area (**Figures 2 and 3a**). Equipment would be unloaded from low boys onto the existing road at the unload points and no improvements are needed to accommodate the unloading of equipment.

Access to the drill pads would be gained via existing and new roadways and via helicopter (AStar AS350 B2 or similar) from the Yuma Airport. The exploration drilling aspects of the Project would require approximately 10,410 ft (2.0 miles) of existing road improvements; approximately 32,740 ft (6.2 miles) of new temporary access road construction; and the construction of up to 8 helicopter landing pads (**Figure 2 and 3a-3h**). These new access roads would be used strictly for Project support vehicles to access the exploration Drill Areas, and they would be signed as having limited access.

The helicopter used for access to up to 8 drill pads would only be flown during daylight hours. The helicopter would be used to transport the drilling equipment needed during drilling operations for up to ten (10) trips per day for drilling crew member access and delivery of water, fuel, and drilling supplies. Drilling operations would be conducted at each of the sites for 4 to 8 days, therefore a helicopter would be in use on the project for up to 64 days. The helicopter would fly from Yuma Airport, approximately 20 miles east of the Project. The flight to and from the Project would be approximately 15 minutes in duration. An additional designated helicopter landing and refueling area would be provided at the 2.8-acre portal staging area.

Access to the Oro Cruz Portal would require the construction of 9,640 linear ft (1.8 miles) of new 15-foot-wide road. The road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. A gate would be placed across the road accompanied by proper deterrence on either side of the gate (i.e. fence, berm, or large boulder).

Reclamation would be implemented at the 2.8-acre portal staging area and all equipment would be removed within the 5-year reclamation monitoring period. The portal staging area would be secured with chain link fence and razor wire and locked during brief periods of non-operation.

Road construction would be conducted using a D8 Dozer (or equivalent). Vegetation disturbance would be avoided to the maximum extent possible. No maintenance is planned for improved existing roads, as they will only be used for 12 to 24 months during active drilling and then would be reclaimed. Improvements would require selected stretches of existing access road to be bladed and cleared of vegetation. Most of the existing roads in the Project Area are about 6 ft wide, so it is assumed that road improvements would require approximately 6 ft of additional disturbance.

New access roads for exploration drilling would not disrupt the surface except where necessary to gain safe access. These roads would be used temporarily for access to the drill sites and would require a 12-foot width for access of drilling equipment.

Where needed to restrict access to Drill Areas 1 and 6, barriers constructed of onsite materials from areas disturbed as part of the Project would be installed to prevent unauthorized vehicular traffic from interfering with the reclamation of access roads and signs would be posted indicating these roads would be for authorized use only. The conceptual locations of the planned safety barriers (or berms) are depicted in **Figures 3b and 3g**. Berms would be 6 ft in height and placed along new access routes to prevent the public from accessing the Drill Areas. Gold Rock Ranch Road is gated at its intersection with Tumco Wash, so that gate will serve as the safety barrier to Drill Areas 2, 3, 4, 5, and 7. Road fill will be stabilized and maintained during and following any construction to prevent any erosion.

4.3. VEHICLES AND EQUIPMENT

The proposed activities would be conducted using the following equipment (or similar):

- AStar AS350 B2 Helicopter or similar (size = 40 by 11 ft; weight ~ 2,600 lbs)
- LF-90D – Boart Longyear track-mounted drill rig (up to two rigs; size = 12 by 20 ft; weight ~ 18,000 lbs)
- Pipe truck (size = 10 by 35 ft; weight ~ 35,000 lbs)
- CAT® bulldozer (size = D8, weight ~80,000 lbs)
- Track hoe (weight ~30,000 lbs)
- Portable Water Tank (2,000 gallon; weight ~400 lbs)
- Diesel Fuel Tank (1,000 gallon; weight ~1,500 lbs)
- Above-Ground Jet fuel tank (300 gallon; weight ~500 lbs)
- Excavator (Size = 200; weight ~52,000 lbs)
- Water trucks (two 1,000 gallon; weight ~50,000 lbs each)
- Generators associated with drill rig (one 125 kW) and Oro Cruz Portal Staging Area (two 125 kW; weight ~13,000 lbs each)
- Portable compressors (two 375 Series; weight ~4,500 lbs each)
- Support vehicles (approximately five one-ton vehicles)

4.4. DISTURBANCES ON PREVIOUSLY MINED LANDS

The access routes will be used by a track-mounted drill rig and support vehicles. The drill pads will consist of an approximately 60-foot by 40-foot area that will be cleared to hold the drilling collar and sumps for drilling mud (wastewater and fluid), along with all drilling equipment and personnel during construction (**Figure 5**). The sumps would be approximately 12 ft by 12 ft and 6 ft deep, sloped approximately 2:1 on one side to allow for wildlife access out of the sump, if needed.

Clearing activities would be conducted with a bulldozer, track hoe and hoe ram. The total surface disturbance for the proposed activities is estimated at 20.5 acres on BLM lands (**Table 1**).

Table I. Project Estimated Disturbance Area

Activity Area	Claims (BLM Serial No.)	Description of Activity	Estimated Impact by Activity (square feet)	Estimated Impact by Activity (Acres)	Estimated Impact Per Drill Area (Acres)
Drill Area 1	Hercules 7 (CAMC-79795)	Exploration Reverse Circulation (RC) or core drilling to be conducted within 14 60-by-40-ft drill sites (Accessed via Existing and New Roads)	33,600	0.8	1.9
	Hercules 8 (CAMC-79796)	Exploration core drilling to be conducted within 2 60-by-40-ft drill sites (Accessed via Helicopter)	4,800	0.1	
	Hercules 9 (CAMC-79797)	Approximately 3,500 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	42,000	1.0	
Drill Area 2	Hercules 11 (CAMC-79799)	Exploration RC or core drilling to be conducted within 13 60-by-40-ft drill sites (Accessed via Existing and New Roads)	31,200	0.7	3.8
	Hercules 12 (CAMC-79800)	Exploration core drilling to be conducted within 2 60-by-40-ft drill sites (Accessed via Helicopter)	4,800	0.1	
	Hercules 28 (CAMC-79816)	2 Helicopter Landing Pads (50-by-50-ft area)	5,000	0.1	
	Hercules 29 (CAMC-79817)	Approximately 10,500 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	126,000	2.9	
Drill Area 3	Hercules 30 (CAMC-79818)	Exploration RC or core drilling to be conducted within 7 60-by-40-ft drill sites (Accessed via Existing and New Roads)	16,800	0.4	1.8
	Hercules 53 (CAMC-79818)	Exploration core drilling to be conducted within 3 60-by-40-ft drill sites (Accessed via Helicopter)	7,200	0.2	
	OC 11 (CAMC-296330)	3 Helicopter Landing Pads (50-by-50-ft area)	7,500	0.2	
	Hercules 54 (CAMC-79842)	Approximately 3,500 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	42,000	1.0	

Table I. Project Estimated Disturbance Area

Activity Area	Claims (BLM Serial No.)	Description of Activity	Estimated Impact by Activity (square feet)	Estimated Impact by Activity (Acres)	Estimated Impact Per Drill Area (Acres)
Drill Area 4	OC 13 (CAMC-296332) OC 14 (CAMC-296333) OC 15 (CAMC-296334)	Exploration RC or core drilling to be conducted within 4 60-by-40-ft drill sites (Accessed via Existing and New Roads)	9,600	0.2	1.2
	Hercules 32 (CAMC-79820) Hercules 33 (CAMC-79821)	Approximately 3,500 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	42,000	1.0	
Drill Area 5	Hercules 26 (CAMC-79814) Hercules 27 (CAMC-79815)	Exploration RC or core drilling to be conducted within 2 60-by-40-ft drill sites (Accessed via Existing and New Roads)	4,800	0.1	1.2
		Exploration core drilling to be conducted within 3 60-by-40-ft drill sites (Accessed via Helicopter)	7,200	0.2	
		3 Helicopter Landing Pads (50-by-50-ft area)	7,500	0.2	
		Approximately 2,700 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	32,400	0.7	
Drill Area 6	Hercules 6 (CAMC-79794) OC 55 (CAMC-297374) OC 57 (CAMC-297376) OC 58 (CAMC-297377) OC 59 (CAMC-297378) OC 60 (CAMC-297379) OC 61 (CAMC-297380) OC 62 (CAMC-297381)	Exploration RC or core drilling to be conducted within 5 60-by-40-ft drill sites (Accessed via new access road)	12,000	0.3	0.8
		Approximately 1,800 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	21,600	0.5	

Table I. Project Estimated Disturbance Area

Activity Area	Claims (BLM Serial No.)	Description of Activity	Estimated Impact by Activity (square feet)	Estimated Impact by Activity (Acres)	Estimated Impact Per Drill Area (Acres)
Drill Area 7	Hercules 10 (CAMC-79798) Hercules 11 (CAMC-79799) Hercules 12 (CAMC-79800)	Exploration RC or core drilling to be conducted within 10 60-by-40-ft drill sites (Accessed via Existing and New Roads)	24,000	0.6	2.5
	OC 48 (CAMC-296367) OC 49 (CAMC-296368)	Approximately 7,000 linear ft of 12-foot-wide New Temporary Exploration Drilling Access Road	84,000	1.9	
Existing Access Roads (Improvements Required)	SMP 1 (Not staked yet) SMP 2 (Not staked yet) OC 9 (CAMC- 296328) OC 13 (CAMC-296332) OC 14 (CAMC-296333) Hercules 10 (CAMC-79798) Hercules 11 (CAMC-79799) Hercules 12 (CAMC-79800) Hercules 26 (CAMC-79814) Hercules 55 (CAMC-79843) Hercules 31 (CAMC-79819)	Approximately 10,410 ft (2.0 miles) of existing road improvements; Assumes an additional 6 ft of disturbance would be added to the width of the existing roads.	62,460	1.4	NA
New Access to Oro Cruz Portal	See Drill Area 6 OC 64 (CAMC-297383) OC 66 (CAMC-297385) OC 68 (CAMC-297387) OC 93 (CAMC-297934)	Approximately 9,640 linear ft (1.8 miles) of 15-foot-wide New Portal Access Road	144,600	3.3	NA
Oro Cruz Portal Staging Area	Hercules 7 (CAMC-79795) Hercules 8 (CAMC-79796)	Access, fueling station, staging and parking to support the exploration of the underground resource accessible through the Oro Cruz Portal Approximately 2.8-acre staging area in at the entrance of the Oro Cruz Portal	121,970	2.8	NA
TOTAL			895,030	20.5	

4.5. DRILLING ACTIVITY

Sixty-five (65) boreholes would be completed using reverse circulation or core techniques. The boreholes would be placed within seven Drill Areas (depicted in **Figures 2 and 3a-3h**). The anticipated maximum depth for the boreholes is approximately 800 ft. Drilling would be accomplished with a track-mounted rig. Any water encountered or generated by drilling will be fully contained within the drill sumps and removed, if required, to be recirculated for use in the drilling process or hauled away. The sumps will be backfilled once all water is evaporated.

A drill rig would operate on a 12- or 24-hour-per-day schedule (12 hours per shift) for 12 to 24 months. Once a hole is completed, the drillers would abandon the hole before moving to the next hole. There would only be two drill rigs in operation at a time within the Project Area.

Each drill site requires an approximately 60-by-40-foot drill pad that will encompass approximately 0.06 acres of disturbed area. A typical layout of a road-accessed drill site is provided in **Figure 5**. The drill sites would include sumps for drilling water and muds along with all drilling equipment and personnel during construction, portable toilet, and additional parking areas for support trucks and a water truck. The sumps would be approximately 12 ft by 12 ft and 6 ft deep.

Drill sites requiring access by helicopter would be cleared by hand where required and would require a drill area that is a maximum 60-by-40-feet in area. The drill rigs that would be used (LF-90D – Boart Longyear drill rig or similar) are unitized to enable disassembly. The helicopter would be used to complete the heavy lifts and to deliver the drilling rig components in sequence on a long-line lanyard for reassembly at each site. A steel skid would be placed directly on the ground surface if a level drill site can be established using hand tools. If additional leveling is required, 10-inch by 10-inch timbers would be used to create a temporary cribbing structure for the skid set to sit on. The cribbing will not exceed 4 ft in height at the low elevation points of the drill site. The cribbing will be fastened together using steel spikes and fully disassembled and removed upon completion of each drill hole. Helicopter-accessed drill sites would include all drilling equipment and personnel during construction and operation, and two hand dug sumps (maximum 12-ft by 12-ft in area) on the downslope sidehill. A portable toilet would be provided at each site. No support trucks or water trucks would be provided at the helicopter-accessed sites. Helicopter-accessed sites would be accessed only by helicopter and cleared entirely by hand. Water, fuel and supplies needed for the drilling process would be delivered by helicopter. Where necessary, daily crew changes would be done by helicopter.

4.6. WATER MANAGEMENT

Water for drilling and dust suppression would be provided by the drilling company via a water truck. SMP would likely procure water from Gold Rock Ranch and/or Yuma. It is anticipated that two 1,000-gallon water trucks would be required onsite each day. A 2,000-gallon portable water storage tank would also be kept onsite for drilling and dust suppression (**Figure 4**).

Water would be needed during the drilling process, and the drill holes are expected to produce water during the drilling process. Water would come into contact with bentonite drilling mud and ground rock at depth. Water would be managed and handled at each drill site after it is pumped out of the hole either by recirculating it for use in the drilling process, by removing the water and hauling it away, or by evaporation and allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would be backfilled after evaporation. There would be no discharges outside the drill site or in surface tributaries, and no pollutants would be discharged in accordance with Clean Water Act requirements. Activities would be in compliance with applicable state and federal laws.

Upon completion of the exploration, the exploratory drill holes would be sealed and abandoned in compliance with the most current edition of State Water Resources Control Board Bulletin #74-81 and #74-90. SMP would coordinate with Imperial County Planning and Development Services Department to obtain appropriate permitting for the exploration Project.

4.7. HAZARDOUS AND SOLID WASTE MANAGEMENT

No hazardous substances would be used in the drilling program and no hazardous wastes would be generated by the Project.

Fuel and lubricants would be stored in a reservoir to prevent any leakage. During drilling operations, the drill rig would be parked on top of plastic sheeting overlain by absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”).

Trash generated by the contractors would be collected in appropriate containers and removed as required from the Project Area. Project-related refuse would be hauled to an authorized landfill for disposal in accordance with applicable laws and regulations. No refuse would be disposed onsite.

4.8. SPILL CONTINGENCY PLAN

SMP would have two fuel tanks onsite that would contain no more than 1,000 gallons of diesel fuel and 300 gallons of Jet fuel, respectively (**Figure 4**).

To prevent the spread of any accidental leakage in storage, fuel and lubricants would be stored in a shallow (4-inch depth), 10-foot by 10-foot lined reservoir at each drill site and in an approximately 6-inch

deep, 20-foot by 40-foot lined reservoir at the fueling station. During drilling operations, the drill rig would be parked on top of plastic sheeting. A spill prevention kit would be stored on site consisting of an oil-only absorbent mat material (i.e., PIG[®] adsorbent mat pad) and absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”). The volume of absorbent that would be kept onsite for potential spills is estimated to be 50 gallons at each active drill site and 100 gallons at the fueling station. Since there will be, at most, 2 active drill sites at one time the estimated volume of absorbent onsite is 200 gallons.

A Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project Area. The following proposed spill prevention, control and countermeasures would be implemented:

- Fueling would be performed on a 20-ft by 40-ft plastic sheeting over an approximately 6-inch deep reservoir. The fueling area would be sloped gently to one corner with a small sump to contain any accidental releases of fuel.
 - Equipment servicing would be performed within the fueling area or on plastic sheeting within the drill sites.
 - A standard procedure fueling and servicing would be performed at the designated fueling stations and drill sites; however, equipment may need to be serviced at times elsewhere within the Project Area, and spill protection measures would be implemented.
 - Diesel fuel is a major consumable for the mine equipment. Diesel fuel is available from local suppliers and would be received in tank trucks. The Project would receive and unload diesel to the onsite storage tank.
 - Diesel fuel would be offloaded using drip-less connections in a contained area to eliminate spillage contamination. The off-loading sites would be designed to drain into the main storage site containment and have a spill response kit containing booms, and clean-up materials to ensure that any off-containment spillage is immediately contained and cleaned.
 - A small spill response trailer would be maintained in the Project Area to clean-up any spills.
 - Inspections of fuel valves and other inlets and outlets as well as secondary containment would be made daily.
 - All site personnel that would be involved in fuel-handling would be trained in the operation and maintenance of equipment to prevent discharges.
 - The 1,300-gallon fuel tank would be secured and locked during times when SMP personnel and contractors are not on site.
 - Berms and protective barriers would be placed around the fuel tank to prevent accidental or malicious damage by vehicles or equipment.
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4.9. FIRE PREVENTION PLAN AND PUBLIC SAFETY

SMP would implement site-specific fire prevention/protection actions. At a minimum these actions would include designating Project fire coordinators, providing adequate fire suppression equipment (including in vehicles), and establishing emergency response information relevant to the Project Area.

SMP would have a 2,000-gallon portable water storage tank onsite for dust suppression that would also be available to assist in firefighting operations (**Figure 4**). SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits.

In the event of an initial, small fire that does not create enough smoke, flame, and heat to prevent fighting the fire using a hand-held fire extinguisher or a small water hose, and providing no one would be endangered, SMP personnel and/or contractors would use make a reasonable effort to extinguish the fire. If two or more people are present, one would fight the fire while one reports to 911 the size, type, and location in the event the fire grows out of control. Personnel would not directly engage any fire which is beyond the incipient stage, i.e., a fire which has progressed to the point it has substantially involved any structure/equipment.

Planning and prevention of fires is also managed through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training.

SMP will coordinate with local law enforcement and fire departments to provide 24-hour access as needed for emergency response.

Cellular telephone service is generally available within the Project Area site for emergency and other communications. A satellite phone would also be made available in case of emergencies. Contractors would be trained in proper emergency response, incident reporting, and general health and safety issues. All equipment would be maintained in a safe and orderly manner.

4.10. PLAN FOR INTERIM CURTAILMENT

This plan for interim curtailment describes the procedures that SMP will implement to prevent unnecessary or undue degradation of BLM lands in the event of a temporary suspension of the Project. These procedures are intended to provide for public safety and environmental protection, while facilitating resumption of operations when appropriate.

SMP will implement the following procedures as appropriate in the event of a curtailment.

- *Measures to monitor the Project:* SMP would designate a field contact representative (FCR) to conduct routine maintenance and inspections and maintain compliance with requirements in
-

environmental permits and this Plan. Monitoring would be conducted monthly or periodically as needed based on communications with BLM and Imperial County.

- *Measures to stabilize excavations:* Excavations anywhere within the Project will be stabilized by preventing stormwater erosion of or excessive run-on into these features. Sediment control structures could include, but not be limited to fabric and/or hay bale filter fences, siltation or filter berms, and downgradient drainage channels in order to prevent unnecessary or undue degradation.
- *Measures to maintain the Project in a safe condition:* Public access will be controlled by signing, fencing, gates, or berms to warn the public of hazards associated with the Project area. All equipment, facilities and fuels would be removed from the site or secured at the Portal Staging Area, which would be fenced and locked to prevent access.

5. ENVIRONMENTAL PROTECTION MEASURES

5.1. PREVENTION OF UNNECESSARY OR UNDUDE DEGRADATION

SMP would prevent unnecessary or undue degradation of public lands by complying with the performance standards found in 43 CFR § 3809.415 and 3809.420, as applicable. SMP would comply with BLM's terms and conditions related to the specific mining and reclamation activities and with other federal and state laws related to environmental protection and protection of cultural resources.

SMP would commit to the following environmental protection measures to prevent unnecessary or undue degradation during project activities. The measures are derived from the general requirements established in 43 CFR § 3809.420, as applicable, as well as other federal and state water and air quality regulations.

5.2. SURFACE WATER AND GROUNDWATER

Surface water within the Project Area consists of stormwater runoff within natural ephemeral drainages. The Project will comply with all applicable regulations relating to hydrology and water quality. SMP would obtain coverage for the Project under a CGP pursuant to CGP Regulation (NPDES No. CAS000002; SWRCB Order No. 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ), if required. The Project may be located in an area that is not hydrologically connected to waters of the U.S., and would be therefore, eligible for a Notice of Non-Applicability (NONA) in the Statewide Stormwater Industrial General Permit (IGP).

Best Management Practices (BMPs) would be installed to manage disturbed surfaces. Sediment control structures could include, but not be limited to fabric and/or hay bale filter fences, siltation or filter berms, and downgradient drainage channels in order to prevent unnecessary or undue degradation.

Water used for dust control will be kept to a practicable minimum in order to minimize the risk of water runoff, and any water runoff will be managed so to not cause downstream erosion or flooding nor cause an exceedance of applicable water quality standards.

Only minor servicing of mobile equipment (greasing and periodic fueling) would be conducted on BLM lands, limiting the potential for diesel fuel spills. Spill response kits would be maintained to ensure that pollutants are prevented from entering into washes. Any pollutants generated by Project activities would be properly disposed of in accordance with applicable regulations.

The Project does not trigger any waste discharge requirements under Title 27, CCR, Section 20005 et seq.

5.3. EROSION AND SEDIMENT CONTROL

Prior to commencement of operations, site-specific stormwater and erosion control BMP's will be implemented on an as needed basis. BMPs to be implemented onsite may include, but are not limited to, the following: specific prohibitions, effluent limitations, potential contaminant source identification, practices to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general storm water BMPs, training, record keeping, sampling procedures and a description of the monitoring program.

Table 2 summarizes the potential erosion control BMPs that would be implemented as part of the Project.

Table 2. Summary of Erosion BMPs

Industrial Activity/Material	Potential Pollutants	BMPs Implemented	Required Equipment & Tools
Site Preparation and/or Exploratory Drilling	Sediment	Erosion control; Sediment control; Stormwater containment.	Silt fencing and fiber rolls. Mobile equipment for berm maintenance as needed.
	Dust	Wind erosion control; Erosion control; Sediment control; Tracking control.	Water truck; Soil binders.
Equipment and Vehicle Maintenance	Oil & Grease Hydrocarbons Gross Pollutants Trace Metals	Good housekeeping; Spill prevention & maintenance; Interior berms as needed to direct surface flows to pit; Secondary containment.	Covered trash bin; Spill kit; Bulldozer for berm maintenance.

No stockpiling of material is anticipated other than for temporary storage as may be necessary. For example, temporary stockpiles may be formed when developing the access roads and/or individual drill pads. If needed, additional BMPs (e.g., berms, sandbags, fiber rolls, or silt fencing, etc.) will be

installed to ensure sediment does not inadvertently erode into adjacent areas during a large storm event.

Due to the existing topography and the proposed design of the access roads and drill pads, stormwater runoff and sediment erosion from the Project Area is considered unlikely. Development of the Project would not add any paving or impervious surface areas. Due to site topography and design, and through the implementation of BMPs, the chances of discharge, erosion, and/or sedimentation from the Project Area that could adversely impact adjacent properties is considered very low.

5.4. AIR QUALITY

Air quality impacts associated with the Project would be primarily from fugitive dust generation by vehicles and equipment during operations and from vehicle and drill powerplant emissions. Road dust emissions and tailpipe emissions from drilling activities and vehicle travel along the access roads have the potential to release regulated pollutants. The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions.

5.5. SOLID WASTES

SMP would properly dispose of waste oil, other related fluids, filters, oily rags, etc. in appropriate disposal locations. Litter and trash generated by the contractors would be collected in appropriate containers and removed as required from the Site. Project-related refuse would be hauled to an authorized landfill for disposal. No refuse would be disposed onsite.

Portable toilet facilities provided for the duration of the Project would be maintained by contractors and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried on site.

5.6. BIOLOGICAL RESOURCES

A biological resources assessment was conducted by Tetra Tech, Inc. within the Project Area in October 2011, and concluded that desert tortoise (*Gopherus agassizii*) has some potential to occur within the Project Area (Tetra Tech 2011). Known observations of desert tortoise in the general vicinity of the Project Area are not recent (1988-2005) and are primarily from desert wash habitat with little disturbance (BLM 2018), significantly different than the Project Area, which is on previously mined areas and associated access roads. The nearest designated critical habitat is approximately 10 miles from the Project Area. As provided in the measures below, adverse impacts to tortoise would be avoided. It was also determined that the Gila woodpecker (*Melanerpes uropygialis*), a state-listed endangered species may occur in the Project Area but that was determined to be unlikely due to the lack of large trees in this area (Tetra Tech 2011).

Given the following, no designated or proposed threatened or endangered species or designated or proposed critical habitat listed under the Endangered Species Act are expected to be adversely impacted by the Project.

1. To the extent possible, the Project would be completed outside the tortoise active season (March 15-November 1), between November 2 and March 14.
2. The Project would result in limited surface disturbance,
3. Project impacts would occur on previously disturbed areas,
4. The exploration drilling portion of the Project is short term, and would be conducted within a period of 12 to 24 months,
5. Measures are proposed to avoid and limit effects to wildlife and vegetation,

Similarly, because of the items identified above, the proposed exploration activities are not expected to result in adverse impacts to BLM-sensitive species that may be present in the area that would lead towards loss of viability or a trend towards listing.

Due to the limited scope and duration of the Project, it is recommended that potential impacts to sensitive species habitats be avoided using measures identified below.

1. Prior to Project activities, pre-construction tortoise surveys shall be conducted by a BLM-approved Qualified Biologist within the area to be disturbed plus a 500-foot buffer, focusing on areas that could provide suitable burrow or cover sites, such as dry washes with caliche. A subsequent survey shall be conducted by a Qualified Biologist within 24 hours of the commencement of surface disturbance activities (should Project activities occur between March 15 and November 1). Burrows will be flagged such that they will be avoided by Project activities.
 2. A BLM-Qualified Biologist will be onsite during the initial activities or mobilization (should Project activities occur between March 15 and November 1).
 3. All surface disturbing activity shall be limited to the land area essential for the Project. In determining these limits, consideration shall be given to topography, public health and safety, placement of facilities, and other limiting factors. Work area boundaries shall be appropriately marked to minimize disturbance. All workers shall strictly limit their activities and vehicles to the areas marked. All workers shall be trained to recognize work area markers and to understand equipment movement restrictions.
 4. All workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on distribution, general behavior and ecology, protection afforded by State and Federal endangered species acts (including prohibitions and penalties), and procedures for reporting encounters, and the importance of following the protection measures. The education program
-

may consist of a class or video presented by a BLM-approved Qualified Biologist. The presentation to be used would be reviewed and approved by a BLM biologist.

5. All personnel would be notified that the desert tortoise is a species listed as threatened under the Endangered Species Act and protected by State and Federal law. Fines can be as high as \$50,000 and/or one year in prison for violations.
 6. Personnel would be notified that desert tortoises are not to be handled, fed, or harassed in any way. If encountered, tortoises will be allowed space and time to move from the area on their own volition.
 7. Personnel who attend tortoise training will sign an attendance sheet, which would be submitted to the BLM for their information. Should BLM staff inspect the site during construction activities, workers onsite should be able to provide proof of tortoise training (a hard hat sticker is recommended for this purpose).
 8. SMP would designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be onsite during all Project activities (should Project activities occur between March 15 and November 1). The FCR would have the authority to halt Project activities that are in violation of the stipulations. The FCR would have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of the project proponent, or a BLM-approved Authorized Biologist. Any incident occurring during project activities which is considered by the biological monitor to be in non-compliance with the mitigation plan shall be documented immediately by the biological monitor. The FCR shall ensure that appropriate corrective action is taken. Corrective actions shall be documented by the monitor. The following incidents shall require immediate cessation of the construction activities causing the incident, including:
 - a) imminent threat of injury or death to a desert tortoise;
 - b) unauthorized handling of a desert tortoise, regardless of intent;
 - c) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads, and
 - d) conducting any construction activity without a biological monitor where one is required.
 9. If a tortoise is encountered during construction activities, work would be halted in proximity to the tortoise until an on-call BLM-approved Authorized Biologist can move the animal from harm's way, or until the desert tortoise leaves of its own accord.
 10. Where possible, motor vehicle access would be limited to maintained roads and designated routes. All vehicle tracks that might encourage public use would be reclaimed after Project-specific use. Barriers would be installed to prevent unauthorized vehicular traffic and signs would be posted indicating these roads would be for authorized use only.
-

11. The following requirements apply to vehicle use:
 - a) Speed Limits: Vehicle speed within Project area, along right-of-way maintenance roads and on routes designated for limited use shall not exceed 20 miles per hour. Speed limits shall be clearly marked by the proponent, and workers shall be made aware of these limits.
 - b) Tortoises Under Vehicles: Vehicles parked in desert tortoise habitat would be inspected immediately prior to being moved. The practice of placing an orange cone by the driver side door will be used as a reminder to check for tortoise before re-entering and moving the vehicle. If a tortoise is found beneath a vehicle, a BLM-approved Authorized Biologist would be contacted to move the animal from harm's way, or the vehicle shall not be moved until the desert tortoise leaves of its own accord.
 12. Access roadside signs depicting a picture of desert tortoise will be posted to remind workers of the potential presence of tortoise within the Project Area.
 13. Project maintenance and construction, stockpiles of excavated materials, equipment storage, and vehicle parking shall be limited to existing disturbed areas wherever possible. Should use of existing disturbed areas prove infeasible, any new disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows or vegetation, public health and safety, and other limiting factors. Special habitat features, particularly tortoise burrows, shall be flagged by the Qualified Biologist so that they may be avoided by installation equipment and during placement of poles and anchors.
 14. All trash and food items generated by construction and maintenance activities shall be promptly contained and regularly removed from the project site to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets shall be provided on site if appropriate.
 15. Feeding of wildlife and/or leaving of food or trash as an attractive nuisance to wildlife is prohibited. Particular attention will be paid to "micro-trash" (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny). All trash and food items shall be promptly contained within closed, wildlife-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other predators.
 16. Domestic pets are prohibited on site. This prohibition does not apply to the use of domestic animals that may be used to aid in official and approved monitoring procedures/protocols, or service animals under Titles II and III of the Americans with Disabilities Act.
 17. Injury: Should any desert tortoise be injured or killed, all activities shall be halted, and the Authorized Biologist immediately contacted. The biologist shall have the responsibility for determining whether the animal should be transported to a veterinarian for care, which is paid
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for by the project proponent, if involved. If the animal recovers, USFWS is to be contacted to determine the final disposition of the animal; few injured desert tortoises are returned to the wild.

5.7. CULTURAL RESOURCES

WestLand Resources, Inc. (WestLand) conducted a cultural resources assessment within the Project Area, where two cultural resources inventory projects have been previously conducted (WestLand 2020). Eight known historic resources are located within the Project Area. The records search indicates all eight of the historic resources within the Project Area are related to and are located within the current boundary of the Hedges/Tumco Historic Townsite. No prehistoric archaeological sites have been previously identified within the Project Area. However, previous studies have documented late nineteenth-century Native American Quechan buff ware ceramics in other portions of the larger townsite (Burney et al. 1993:B.8).

The results of the records search indicate that the prehistoric resources within the Project Area are within the geographic area previously described by Imperial County for the Keruk/Xam Kwatcan Trail Landscape (Imperial County 2015). Additionally, the results of the records search from the Native American Heritage Commission Sacred Lands Search (NAHC SLF) indicate that further tribal consultation, particularly with the Quechan Tribe of the Fort Yuma Reservation, may be required as part of additional data-gathering efforts for identifying cultural resources that could be affected by the proposed Project (WestLand 2020).

Given the nature of the previous research in the Project Area, SMP plans to retain a qualified archaeologist to conduct cultural resources inventory in all areas that will be potentially affected by surface disturbance associated with the Project to identify any historic resources present on the surface and areas that may be sensitive to intact buried cultural deposits. This type of inventory will collect precise locational data on the resources present and allow SMP to incorporate avoidance measures. Additionally, SMP proposes to prepare and implement a tribal engagement plan with the Native American Heritage Commission and the Quechan Tribe of the Fort Yuma Reservation regarding the Project.

All ground-disturbing activities have the potential to unearth archaeological sites or human remains and that all such discoveries on federal lands will be treated in accordance with the Native American Graves and Repatriation Act (25 USC 30001-3013).

6. RECLAMATION PLAN

The intent of the California Surface Mining and Reclamation Act (SMARA) is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining

operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of aggregates are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated" (Section 2712)." Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article. The standards shall apply to each surface mining operation to the extent that:

- They are consistent with required mitigation identified in conformance with CEQA; and
- They are consistent with the planned or actual subsequent use or uses of the site."

Section 6 herein describes the Reclamation Plan for reclaiming land disturbed by exploration drilling within the Project Area, as required under SMARA. This Reclamation Plan addresses the reclamation activities that will be undertaken following completion of the exploratory drilling, in conformance with SMARA.

6.1. PURPOSE, APPROACH, AND SCHEDULE

The anticipated post-Project land uses are mining, recreational uses, and open space. Following the completion of all drilling, solids and desiccated drilling muds that have been contained in the sump would be treated by evaporation and by allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would then be backfilled. The drilling muds that would be used do not contain toxic or deleterious materials. The proposed drilling mud material data sheets could be provided to BLM upon request. The inert drilling mud materials would be disposed of in accordance with applicable state and federal regulations. The drill site, mud pits, and outer berm would then be returned to natural grade with a track hoe using rocks and soil set aside during site construction and mud pit excavation.

Water bars and erosion-control features would be repaired and constructed as necessary. All equipment and supporting structures would be removed from BLM lands.

Upon completion of the exploration, the exploratory drill holes would be sealed and abandoned in compliance with the most current edition of State Water Resources Control Board Bulletin #74-81 and #74-90. This would include backfilling with onsite materials, sealing with bentonite clay; and covering with a 2- to 3-foot mound of onsite material. Drilling and drill hole abandonment would be conducted in accordance with SMARA, Public Resources Code Sections 2710 et seq. and its regulations at 14 California Code of Regulations Section 3500 et seq.

Consistent with the H-3809-1 Surface Management Handbook (BLM 2012), this Reclamation Plan would be updated or appended to reflect other agency permits or authorizations, final designs, or certain stipulations, as more specific and detailed plans become available.

Project reclamation for drilling activities and monitoring for the success of reclamation would be completed within 5 years of Project implementation.

A reclamation cost estimate would be submitted to BLM upon approval of the Final Plan in accordance with 43 CFR 3809.401(d).

6.2. REMOVAL OF EQUIPMENT AND FACILITIES

Generally, the strategy for reclamation and closure of equipment and facilities would include:

- Removing temporary instrumentation and equipment, utilities, and unneeded access roads; and
- Reclaiming disturbed surfaces by ripping and/or covering and reseeding.

6.3. ROAD CLOSURE

The main entrance road would remain in use during the post-closure period to provide access for post closure land uses, including reclamation work and monitoring.

Closure of roads that are not needed for post-closure access would involve demolishing fill while maintaining satisfactory drainage. Roads not needed for post-closure access would be reclaimed. The abandoned road surfaces would be scarified by ripping, if necessary. Where needed, rock or earthen berms and water bars would be placed to prevent vehicular access and reduce erosion. The road corridors would be reclaimed by treatment with a mulch/seed mix to promote revegetation.

6.4. REVEGETATION

Reclaimed areas would be revegetated with a BLM-approved seed mix. These areas would be revegetated after cover placement and at the appropriate time of the year for optimum seed germination and plant growth.

6.4.1. Growth Media

Generally, initial seedbed preparation on flatter surfaces would include ripping or discing the surface along contours. Conventional seeding techniques (including drill and broadcast) would be used as appropriate depending on soil/cover characteristics and landform. Hydroseed, hydromulch, and tackifier may be used on slopes that are not suitable for conventional seeding. Mulch may be applied to minimize erosion and promote moisture retention where appropriate.

6.4.2. Seed Mix

Revegetation would require site-appropriate, BLM-approved native seed mixtures. A diverse native plant community would be targeted through the definition of seed mixtures and application rates. The seed mix list would be reviewed before revegetation activities are initiated to confirm the availability of the seeds, and the list would be adjusted as needed. The seed mix and mulch materials would be certified by the revegetation contractor to be relatively weed free.

The proposed native seed mixture will consist of the following: creosotebush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), desert spineflower (*Geraea canescens*), turtleback (*Psathyrotes ramosissima*), forget-me-not (*Cryptantha* spp.), and hairy prairie clover (*Dalea mollis*). Seeds will be purchased and mixed in equal quantities and will be hand broadcasted at approximately 10 pounds per acre.

The seed mix would be designed to meet the following criteria:

- Native non-invasive species that have a high compatibility with the existing landscape;
- Species and plant type diversity to promote a sustainable vegetative cover throughout the seasonal changes and other climate related variances; and
- Species and plant type diversity to promote a variety of germination periods and seasonal growth.

7. MONITORING PLAN

The scale of the Project is relatively small, affecting approximately only 21 acres of BLM lands. The Project poses relatively low risks of environmental impacts and would not require extensive monitoring at closure. Reclamation would occur concurrently with the Project implementation; once access is no longer required by SMP, the Project Area would be reclaimed and revegetated. The reclaimed and revegetated Project Area would be monitored and maintained annually in late Spring or early Summer for 3 years to ensure that vegetation is established, and reclaimed areas are stable.

As described in detail in **Section 5.6 (Biological Resources)**, Project activities will be monitored to avoid potential impacts to sensitive species habitats (particularly Mojave Desert tortoise habitat) should Project activities occur between March 15 and November 1 (the active Mojave Desert tortoise season). Pre-construction tortoise surveys shall be conducted by a BLM-approved Qualified Biologist within the area to be disturbed plus a 500-foot buffer, and a BLM-Qualified Biologist will be onsite during the initial activities or mobilization. In addition, SMP would designate a FCR who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be onsite during all Project activities (should Project activities occur between March 15 and November 1).

As described in **Section 5.7 (Cultural Resources)**, SMP will avoid impacts to cultural resources and engage in consultation with the Native American Heritage Commission and the Quechan Tribe of the Fort Yuma Reservation regarding the Project.

8. REFERENCES

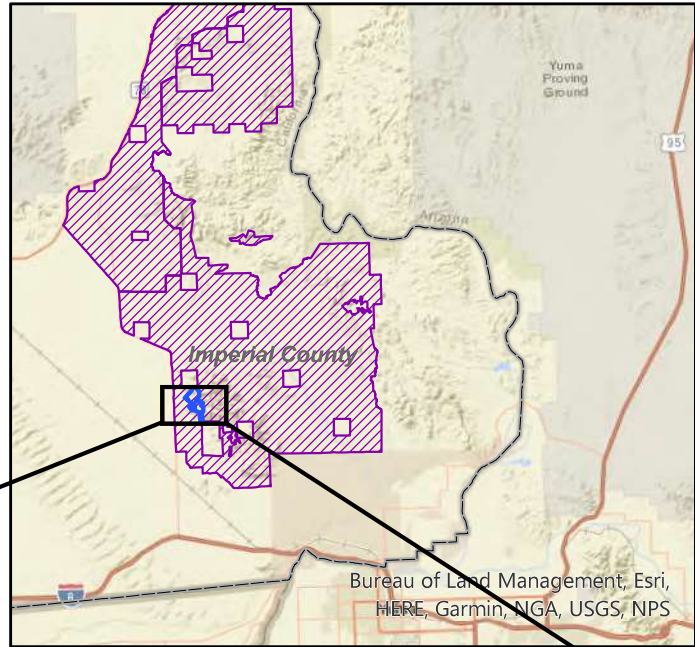
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FIGURES

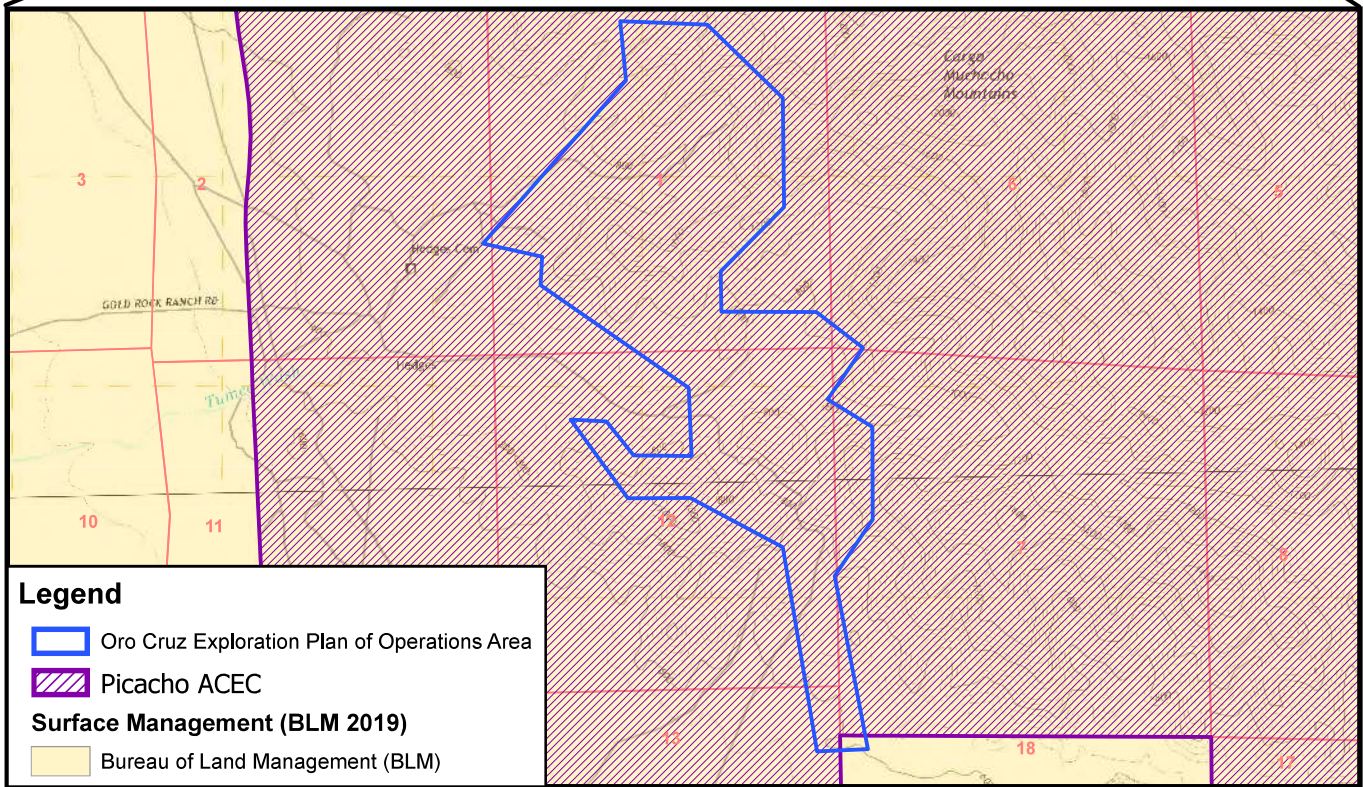
CALIFORNIA



PROJECT VICINITY



Approximate Scale 1 Inch = 12 Miles



Legend

- Oro Cruz Exploration Plan of Operations Area
- Picacho ACEC

Surface Management (BLM 2019)

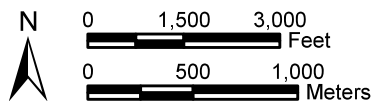
- Bureau of Land Management (BLM)

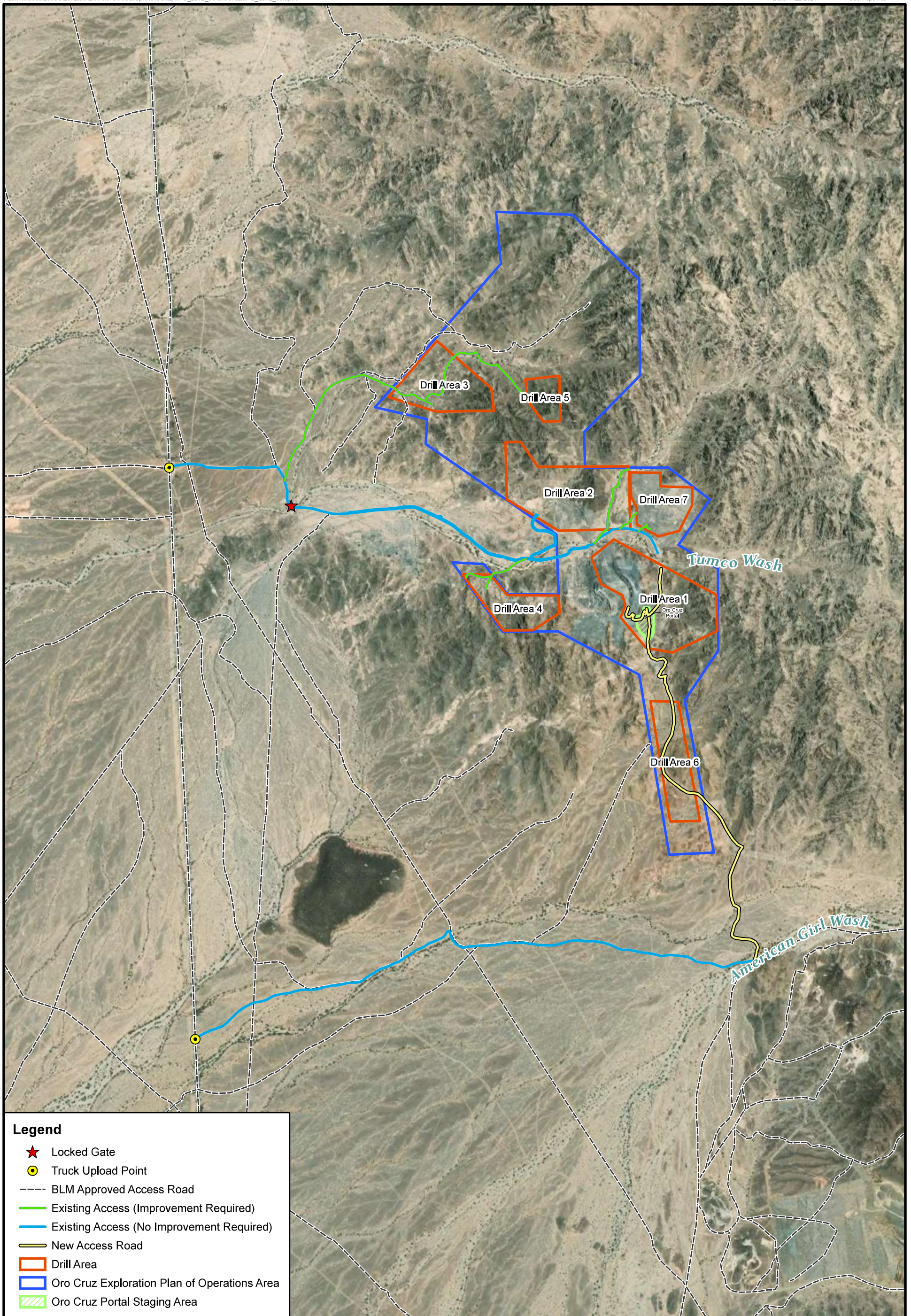
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 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
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 Image Source: ArcGIS Online, World Street Map

SMP GOLD CORP.
**Oro Cruz Exploration
 Plan of Operations**

VICINITY MAP

Figure 1

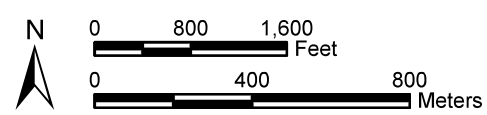




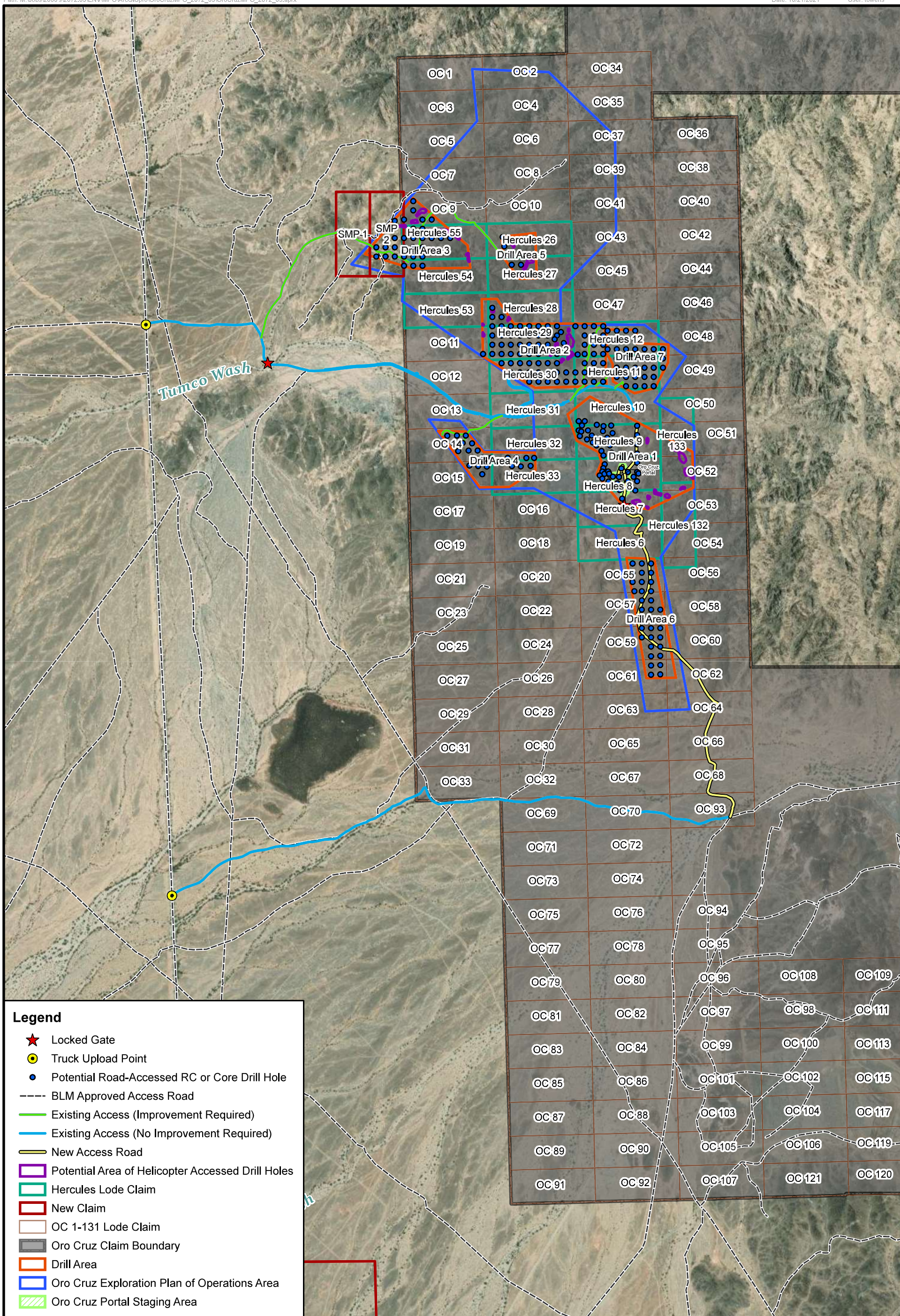
Legend

- ★ Locked Gate
- Truck Upload Point
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Drill Area
- Oro Cruz Exploration Plan of Operations Area
- ▨ Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018



SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 PROJECT LOCATION
 Figure 2




Legend

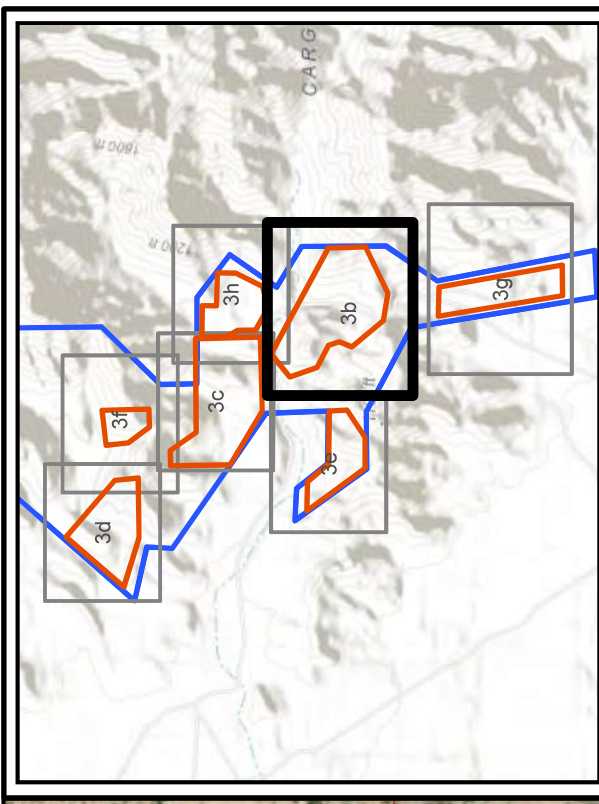
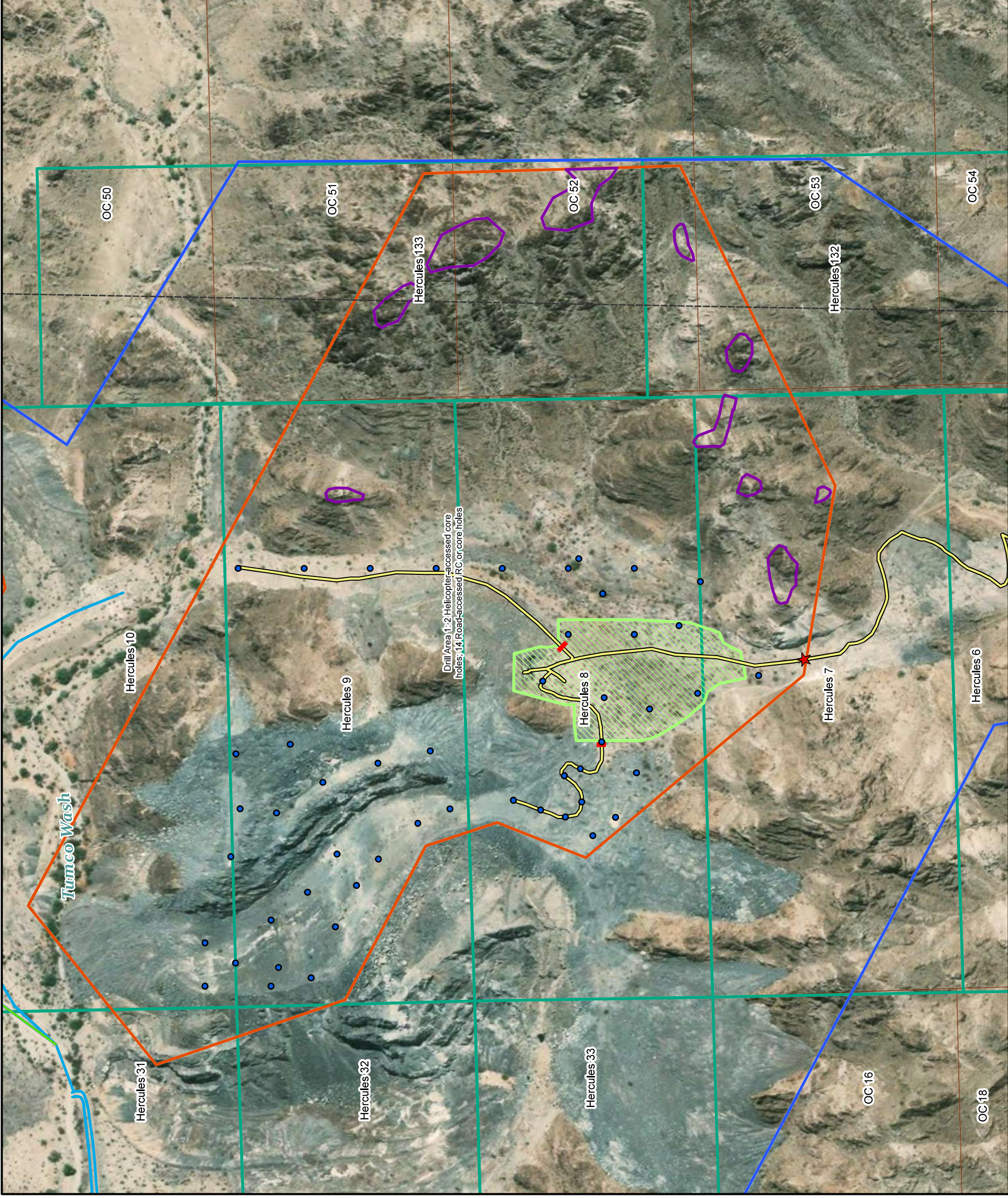
- ★ Locked Gate
- Truck Upload Point
- Potential Road-Accessed RC or Core Drill Hole
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- ▭ Potential Area of Helicopter Accessed Drill Holes
- ▭ Hercules Lode Claim
- ▭ New Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Drill Area
- ▭ Oro Cruz Exploration Plan of Operations Area
- ▭ Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

SMP GOLD CORP.
Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3a

WestLand Resources


 0 800 1,600 Feet
 0 400 800 Meters

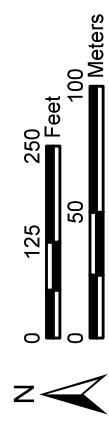


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 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- ★ Gate
- Potential Road-Accessed RC or Core Drill Hole
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Safety Berm
- Drill Area
- Potential Area of Helicopter-Accessed Drill Holes
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area
- Oro Cruz Portal Staging Area

**NOTE: Drill Area 1: 2 Helicopter-accessed core holes;
 14 Road-accessed RC or core holes**

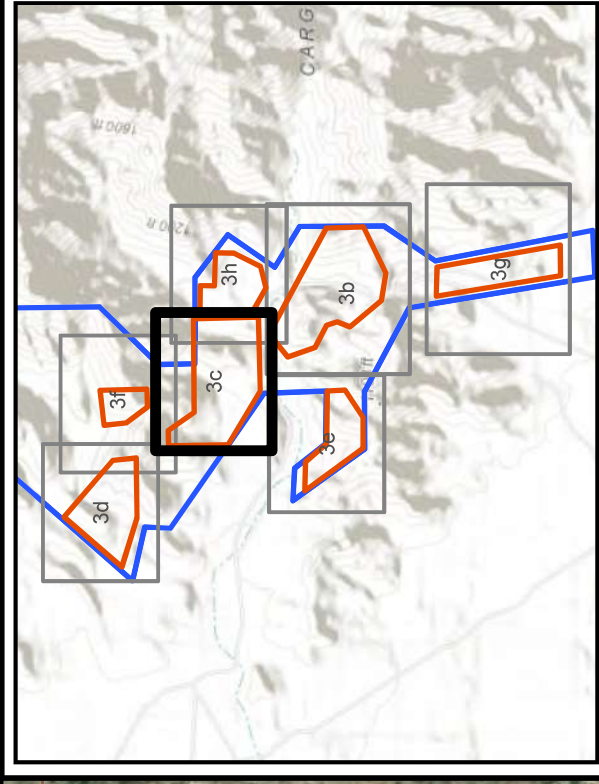
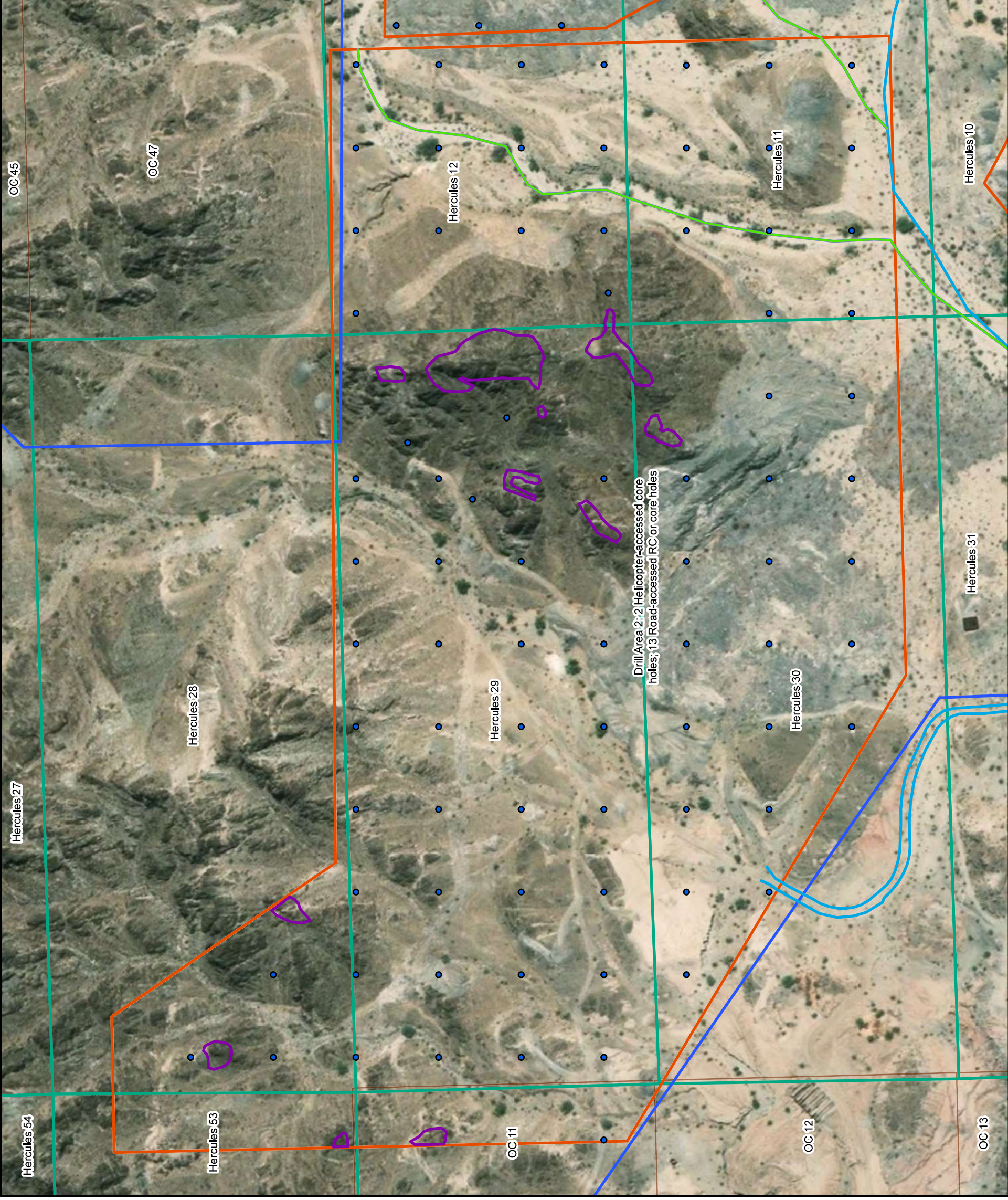


SMP GOLD CORP.

Oro Cruz Exploration Plan of Operations

BLM CLAIMS BOUNDARY

Figure 3b

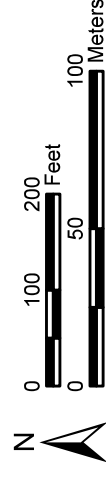


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Potential Road-Accessed RC or Core Drill Hole
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- Drill Area
- Potential Area of Helicopter-Accessed Drill Holes
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

**NOTE: Drill Area 2: 2 Helicopter-accessed core holes;
 13 Road-accessed RC or core holes**



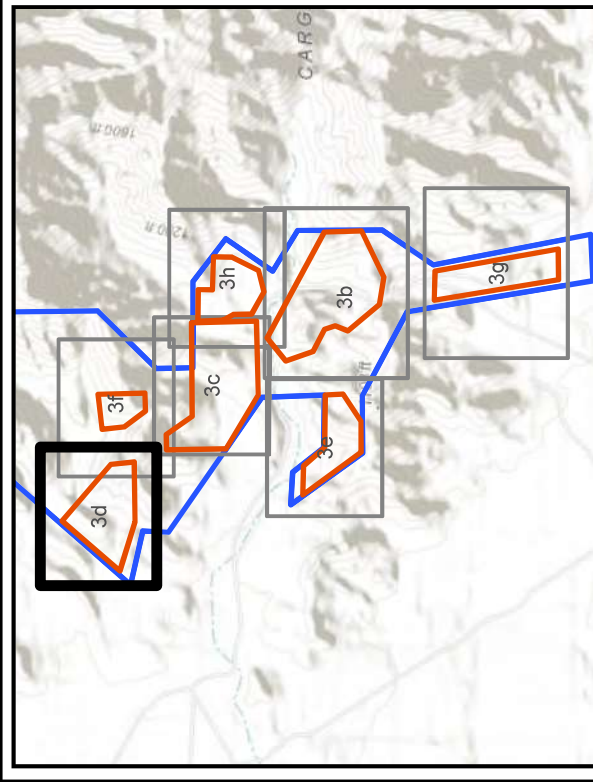
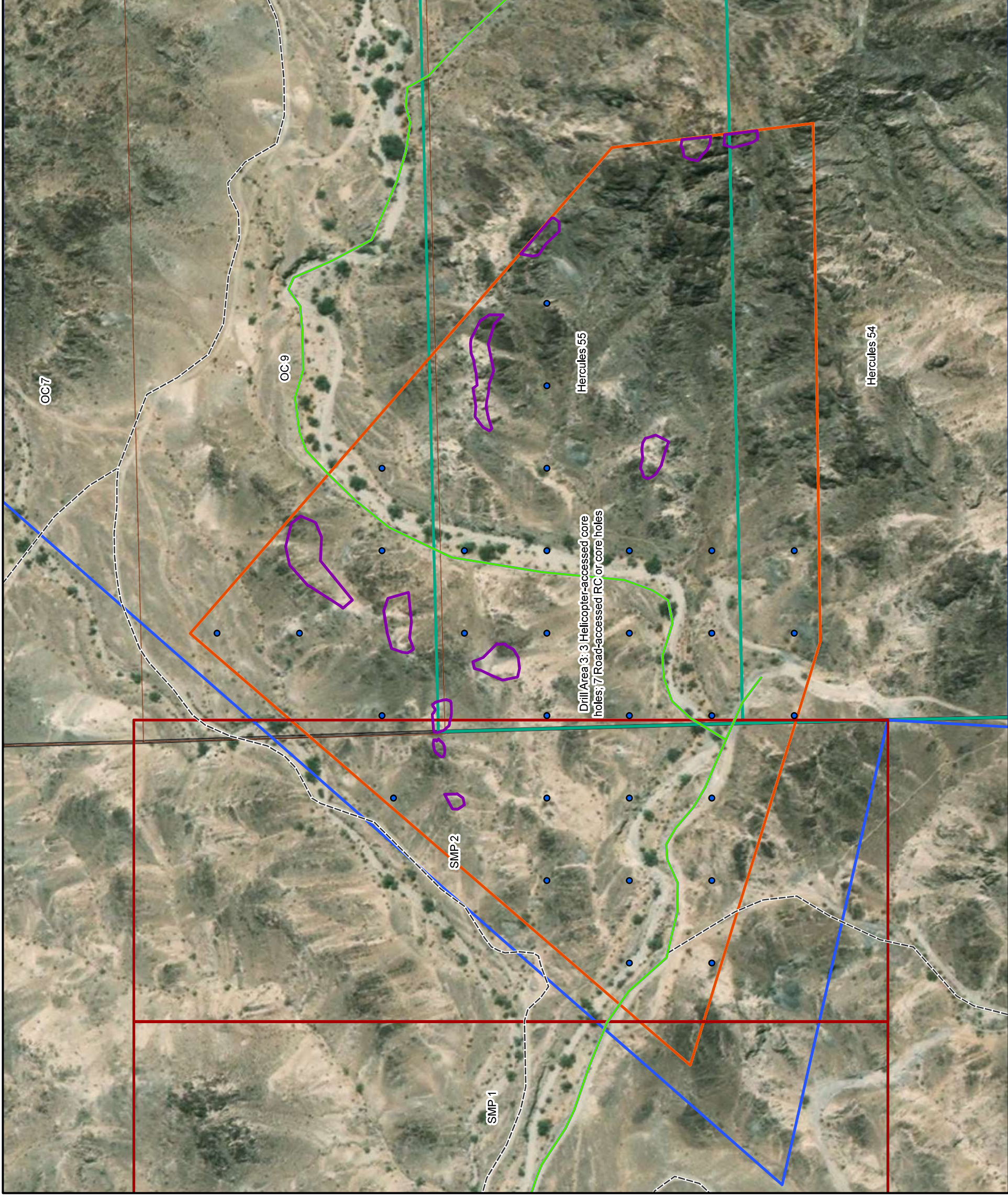
WestLand Resources

SMP GOLD CORP.

Oro Cruz Exploration Plan of Operations

BLM CLAIMS BOUNDARY

Figure 3c

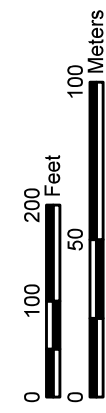


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 Imperial County, California, Data Source: SMP
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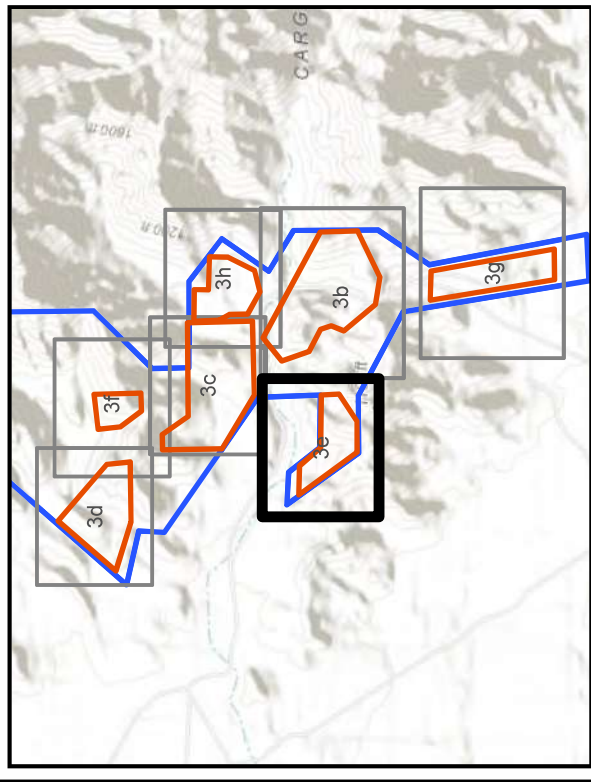
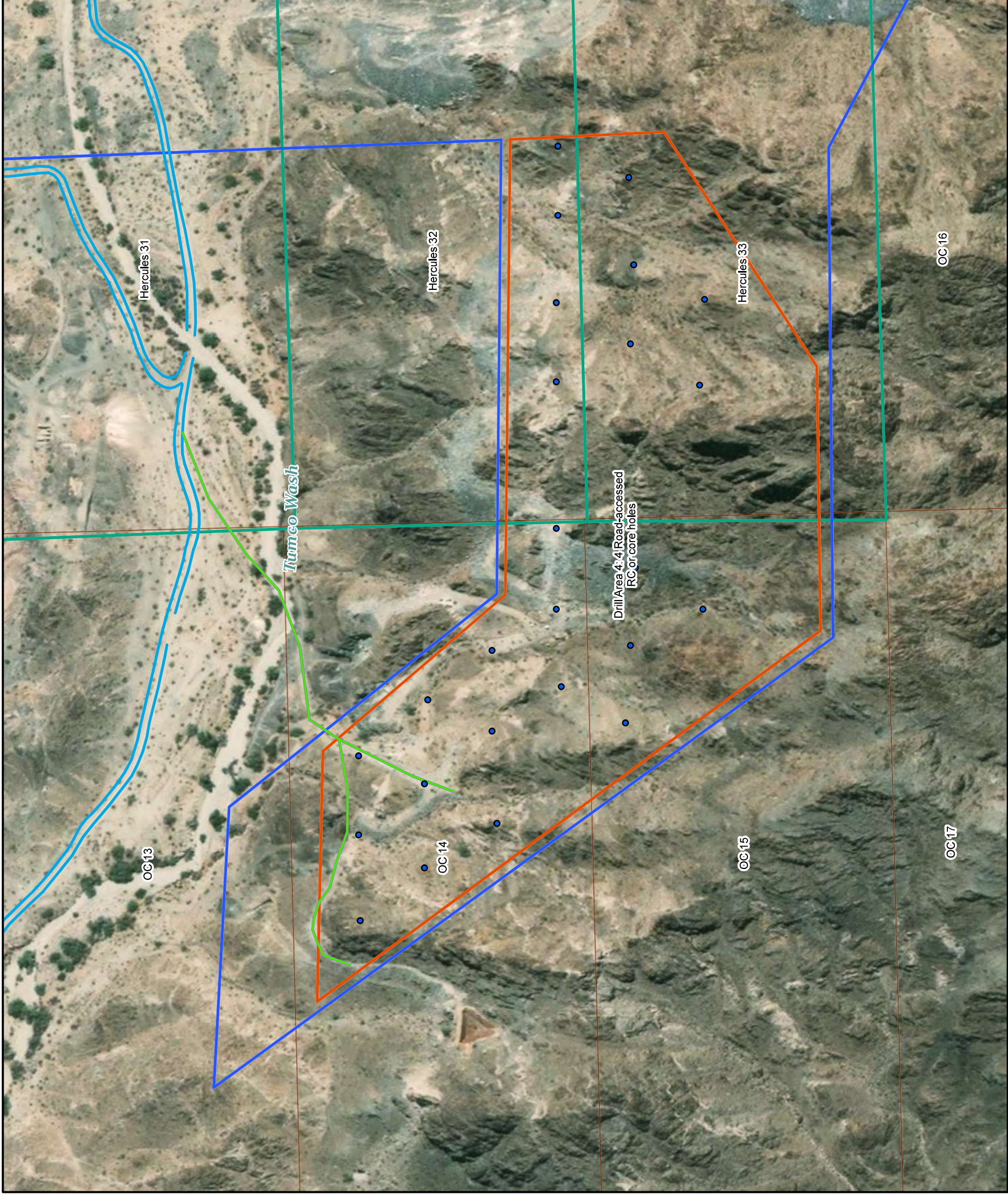
Legend

- Potential Road-Accessed RC or Core Drill Hole
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Drill Area
- Potential Area of Helicopter-Accessed Drill Holes
- Hercules Lode Claim
- New Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

**NOTE: Drill Area 3: 3 Helicopter-accessed core holes;
 7 Road-accessed RC or core holes**



SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3d

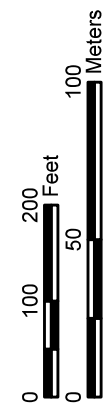


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 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Potential Road-Accessed RC or Core Drill Hole
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- Drill Area
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

NOTE: Drill Area 4: 4 Road-accessed RC or core holes



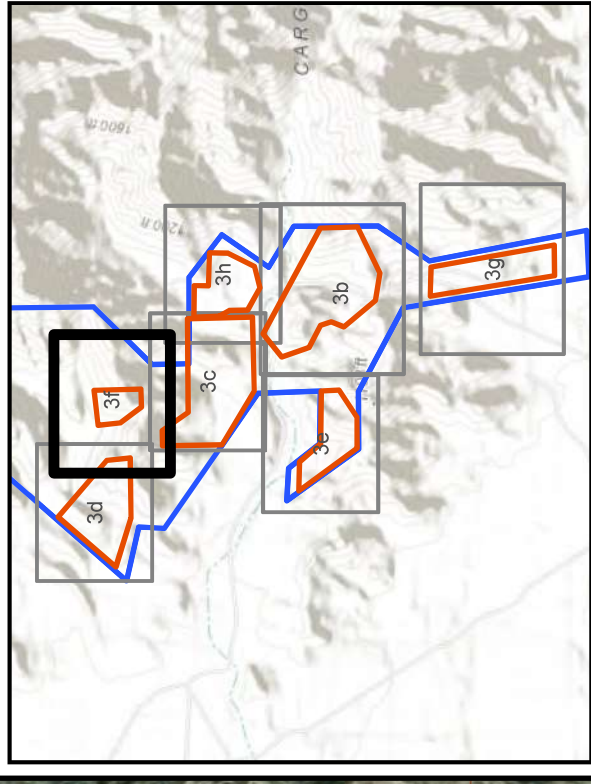
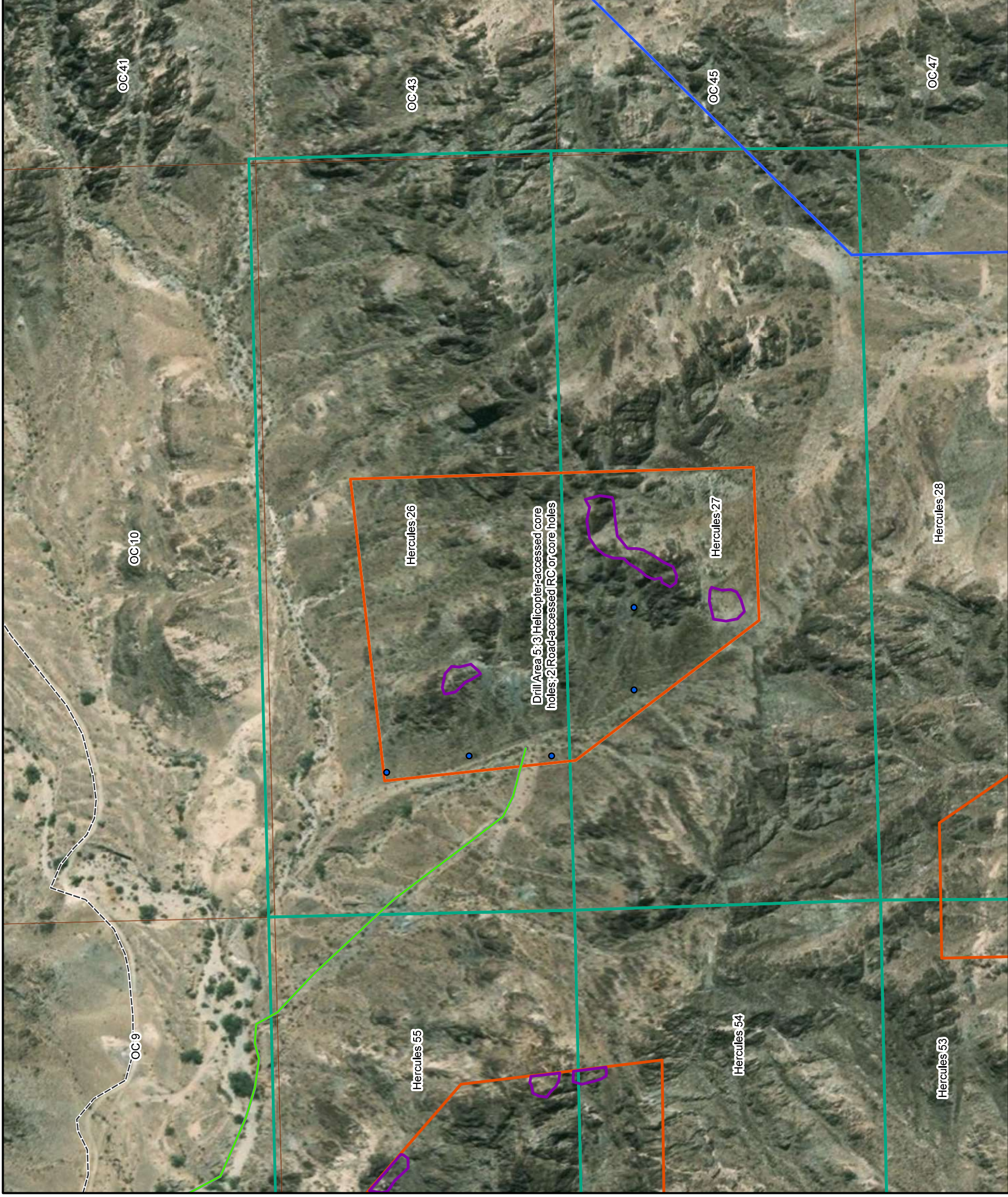
WestLand Resources

SMP GOLD CORP.

Oro Cruz Exploration Plan of Operations

BLM CLAIMS BOUNDARY

Figure 3e

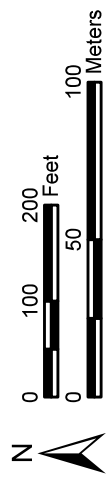


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Potential Road-Accessed RC or Core Drill Hole
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Drill Area
- Potential Area of Helicopter-Accessed Drill Holes
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

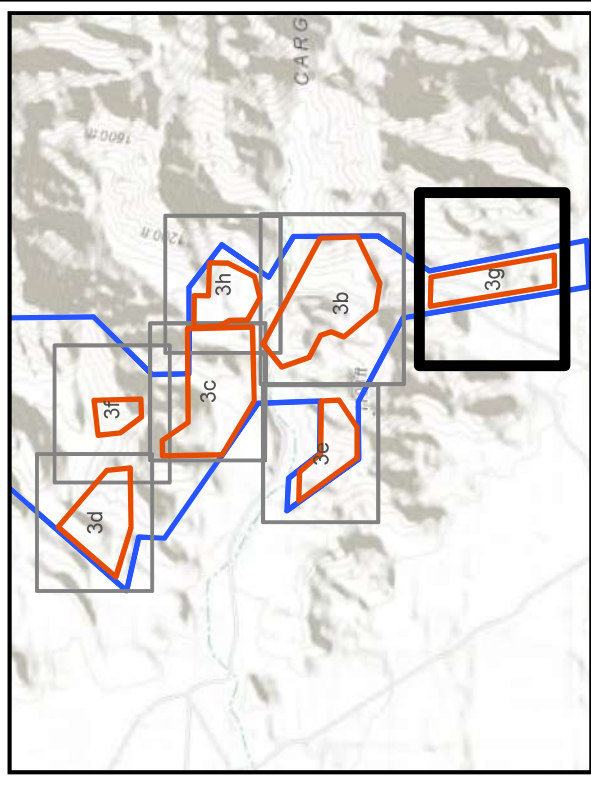
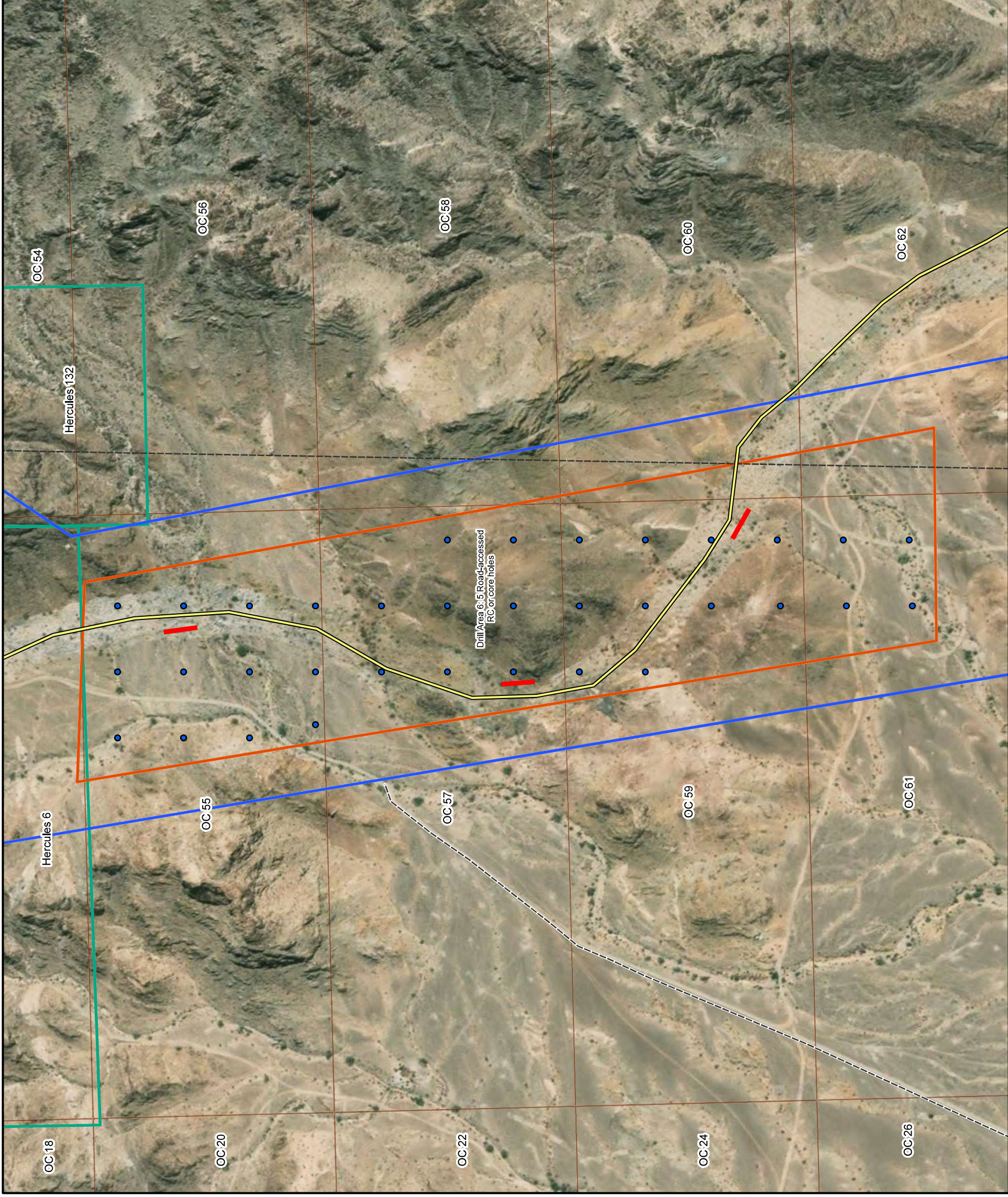
**NOTE: Drill Area 5: 3 Helicopter-accessed core holes;
 2 Road-accessed RC or core holes**



WestLand Resources

SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY

Figure 3f

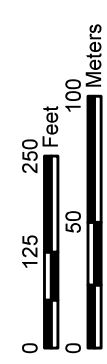


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Potential Road-Accessed RC or Core Drill Hole
- BLM Approved Access Road
- New Access Road
- Safety Berm
- Drill Area
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

NOTE: Drill Area 6: 5 Road-accessed RC or core holes



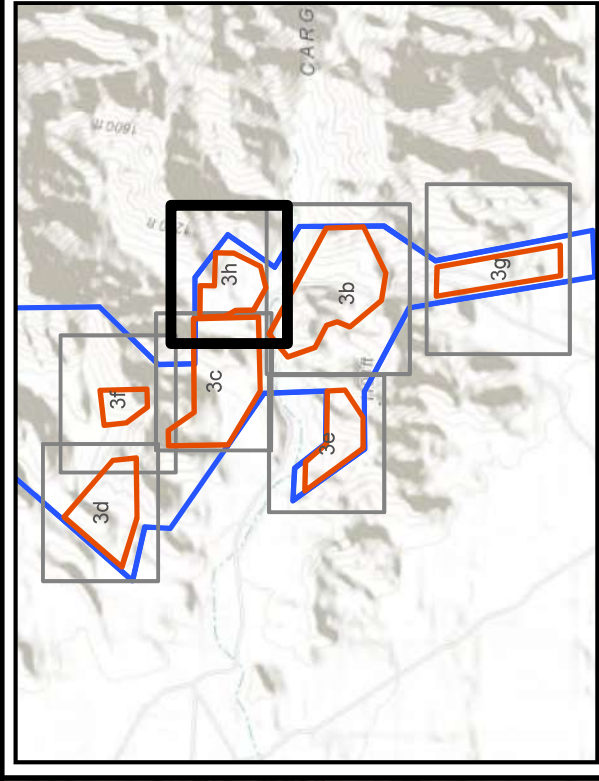
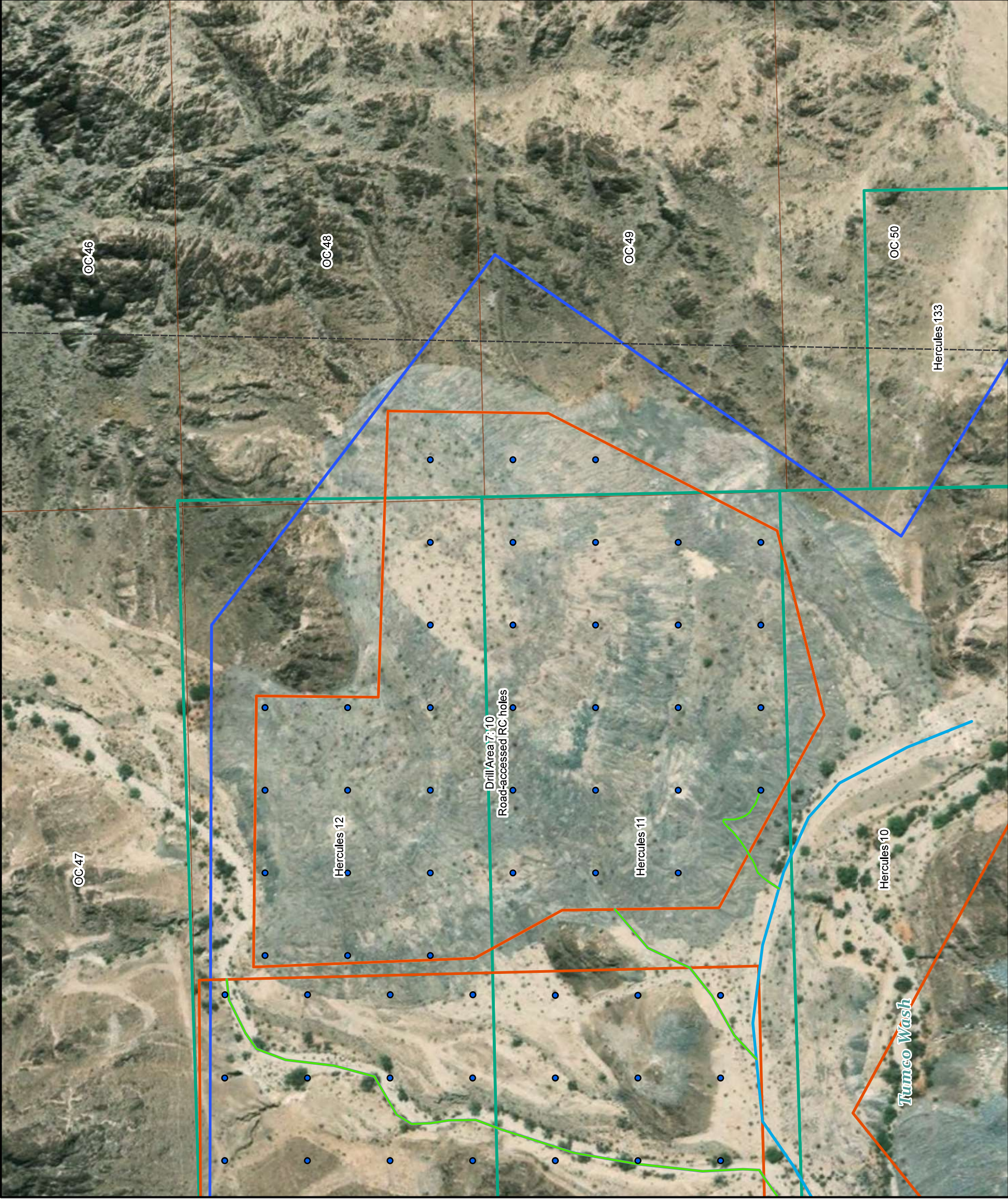
WestLand Resources

SMP GOLD CORP.

Oro Cruz Exploration Plan of Operations

BLM CLAIMS BOUNDARY

Figure 3g

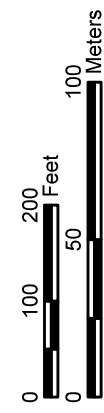


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Potential Road-Accessed RC or Core Drill Hole
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- Drill Area
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area

NOTE: Drill Area 7: 10 Road-accessed RC holes



WestLand Resources

SMP GOLD CORP.

Oro Cruz Exploration Plan of Operations

BLM CLAIMS BOUNDARY

Figure 3h



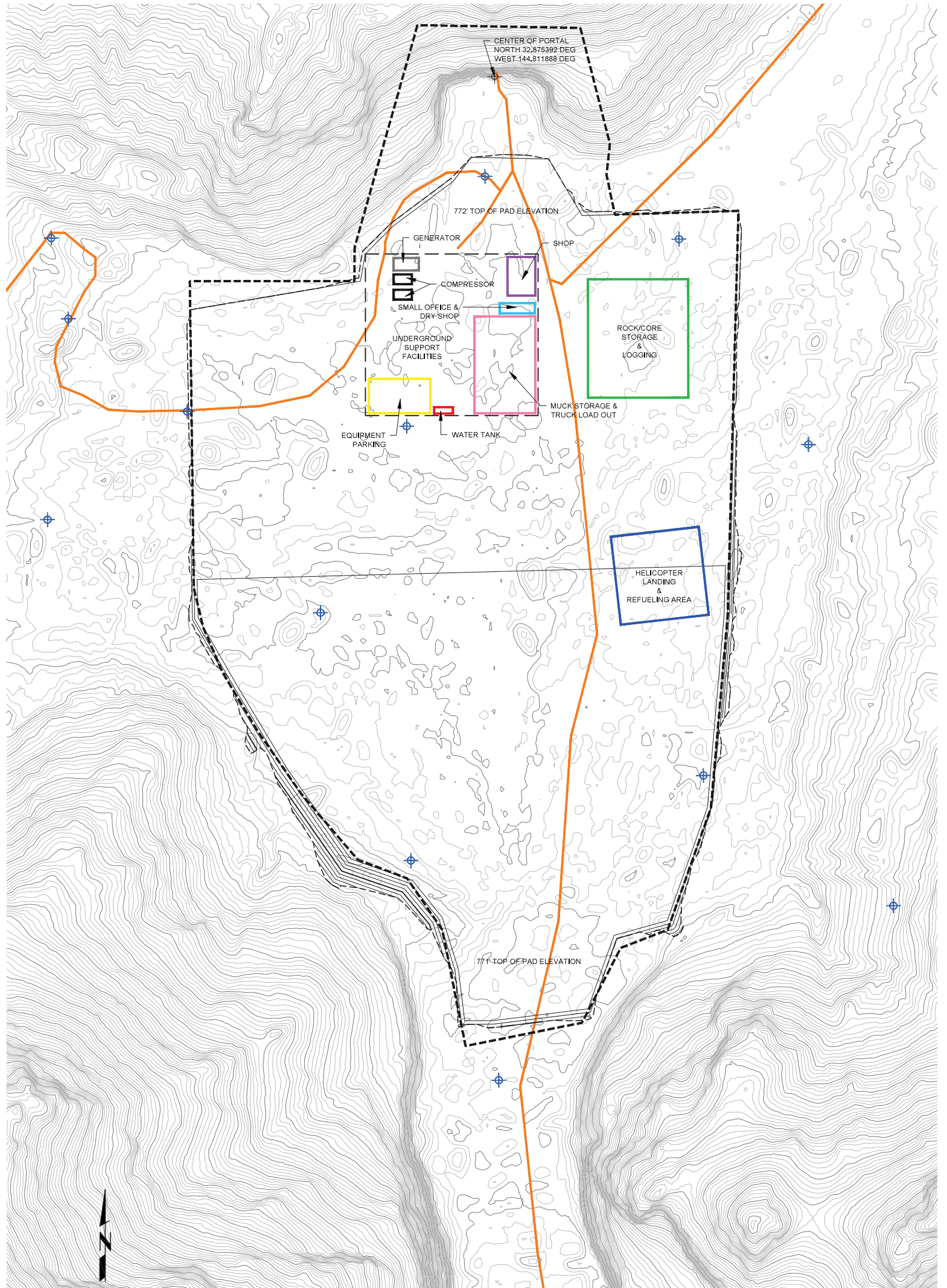
INDEX MAP

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- FIGURE 3B: DRILL AREA 1
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- FIGURE 4: EXPLORATION PLAN
- FIGURE 5A: PORTAL STAGING AREA GRADING
- FIGURE 5B: CONCEPTUAL DRILL SITE LAYOUT
- FIGURE 6: RECLAMATION PLAN

LEGEND

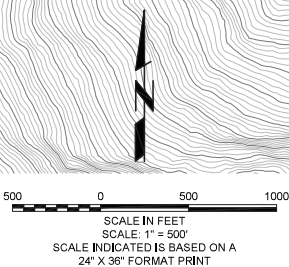
- EXISTING CONTOURS
- PAD CONTOURS
- NEW ACCESS ROAD
- POTENTIAL LOCATION OF ROAD-ACCESS RC OR CORE DRILL HOLE



THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH A STANDARD OF CARE ORDINARY AND CUSTOMARY WITHIN THE PRACTICE OF ENGINEERING. THE SCOPE OF RESPONSIBILITY OF THE UNDERSIGNED IS LIMITED SPECIFICALLY TO THE AREA OF PRACTICE OF CIVIL ENGINEERING DEFINED IN THE CALIFORNIA PROFESSIONAL ENGINEERS ACT.



A. PEARCE SWERDFEGER R.C.E. 87466 EXP. 09-30-2021



SOURCE DATA:

BOUNDARIES:
 ORO CRUZ CLAIM BOUNDARY: WESTLAND RESOURCES
 ORO CRUZ EXPLORATION: WESTLAND RESOURCES
 TOPOGRAPHY:
 LIDAR: EAGLE MAPPING LTD., FLIGHT DATE 01/15/2021
 GROUND CONTROL: DESERT SURVEYING & ENGINEERING,
 GORDON O. OLSON, PE, PLS (CA PLS NO. 7107)
 CONTOUR INTERVAL: 10 FEET
 DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
 VERT= NAVD88

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 374 Pol Street, Suite 200 • Ventura, CA 93001
 (805) 275-1515 • www.sespeconsulting.com

REVISIONS			
MARK	DATE	DESCRIPTION	BY
	05/16/21	INITIAL DRAFT	GJC

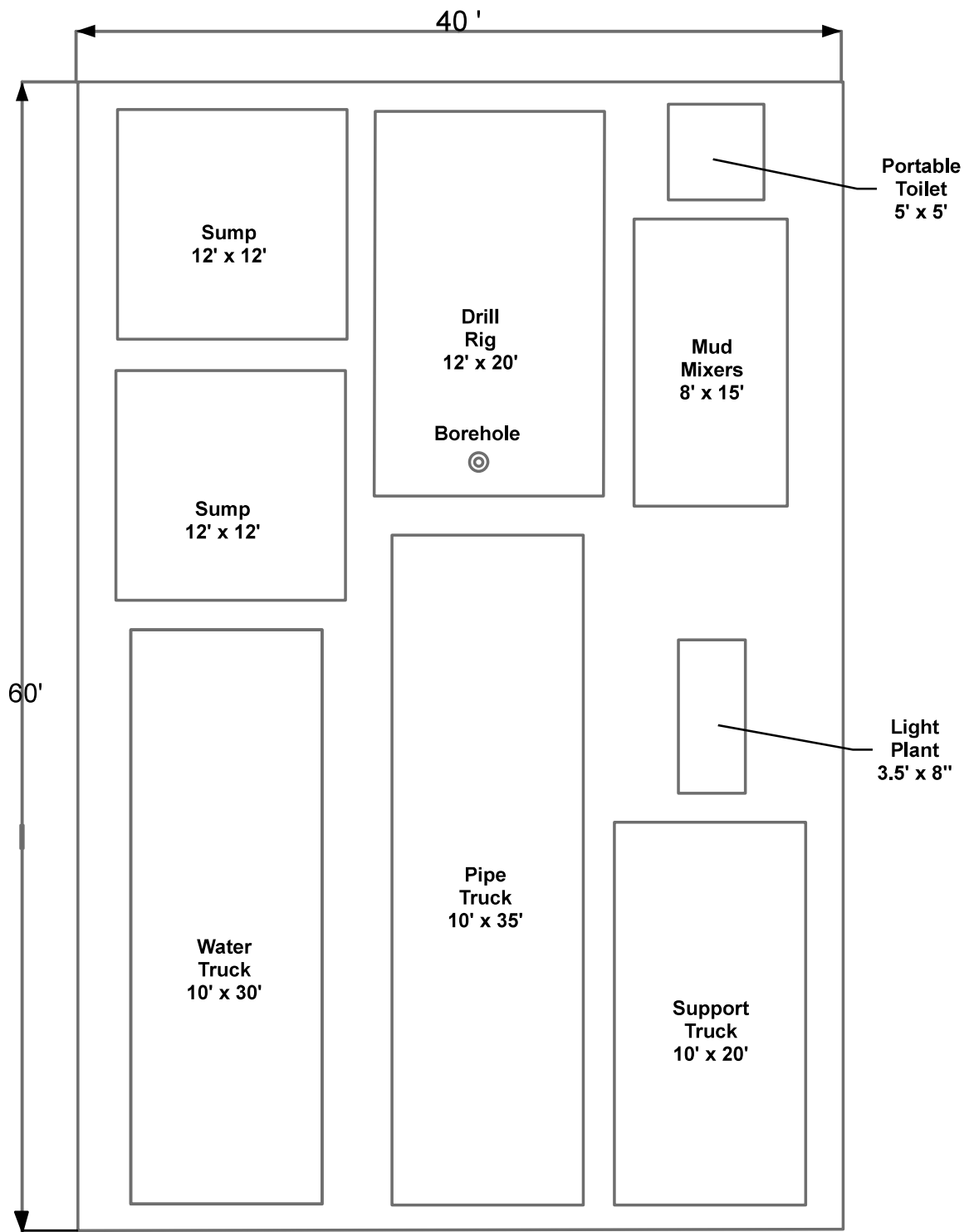
SMP GOLD CORP.
ORO CRUZ EXPLORATION PROJECT

PORTAL STAGING AREA GRADING

SCALE: HORZ: AS SHOWN
 VERT: AS SHOWN

DRAWN BY: G.CAMUS
 CHECKED BY: APS

FIGURE 4



Note: Layout will vary depending on site conditions

SMP GOLD CORP.
Oro Cruz Exploration
Plan of Operations

TYPICAL ROAD-ACCESSED DRILL SITE LAYOUT

Figure 5



0 5 10 Feet

0 1.5 3 Meters

Appendix B: Conservation Management Actions

LUPA Wide						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
Biological Resources	LUPA-BIO-1	<p>Conduct a habitat assessment (see Glossary of Terms) of Focus and BLM Special Status Species' suitable habitat for all activities and identify and/or delineate the DRECP vegetation types, rare alliances, and special features (e.g., Aeolian sand transport resources, Joshua tree, microphyll woodlands, carbon sequestration characteristics, seeps, climate refugia) present using the most current information, data sources, and tools (e.g., DRECP land cover mapping, aerial photos, DRECP species models, and reconnaissance site visits) to identify suitable habitat (see Glossary of Terms) for Focus and BLM Special Status Species. If required by the relevant species specific CMAs, conduct any subsequent protocol or adequate presence/absence surveys to identify species occupancy status and a more detailed mapping of suitable habitat to inform siting and design considerations. If required by relevant species specific CMAs, conduct analysis of percentage of impacts to suitable habitat and modeled suitable habitat.</p> <ul style="list-style-type: none"> • BLM will not require protocol surveys in sites determined by the designated biologist to be unviable for occupancy of the species, or if baseline studies inferred absence during the current or previous active season. <p>Utilize the most recent and applicable assessment protocols and guidance documents for vegetation types and jurisdictional waters and wetlands that have been approved by BLM, and the appropriate responsible regulatory agencies, as applicable.</p>	Yes		A habitat assessment was conducted during the 2021 biological survey and the resulting report was approved by the BLM. The Biological Resources Assessment is included within Appendix E of the EA and is on file with the BLM El Centro Field Office. Further mitigation would not be necessary in addition to the PDFs and an additional habitat assessment would not be required as it was already conducted; therefore this CMA would not be required to be implemented.	
	LUPA-BIO-2	<p>Designated biologist(s) (see Glossary of Terms), will conduct, and oversee where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring will be determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.</p>	Yes		Required pre-clearance surveys and continued monitoring would take place during all phases of the Proposed Action by a BLM-approved biologist per the PDFs in Appendix F of the EA. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.	
Resource Setback Standards	LUPA-BIO-3	<p>Resource setbacks (see Glossary of Terms) have been identified to avoid and minimize the adverse effects to specific biological resources. Setbacks are not considered additive and are measured as specified in the applicable CMA. Allowable minor incursions (see Glossary of Terms), as per specific CMAs do not affect the following setback measurement descriptions. Generally, setbacks (which range in distances for different biological resources) for the appropriate resources are measured from:</p> <ul style="list-style-type: none"> • The edge of each of the DRECP desert vegetation types, including but not limited to those in the riparian or wetland vegetation groups (as defined by alliances within the vegetation type descriptions and mapped based on the vegetation type habitat assessments described in LUPA-BIO-1). • The edge of the mapped riparian vegetation or the Federal Emergency Management Agency (FEMA) 100-year floodplain, whichever is greater, for the Mojave River. • The edge of the vegetation extent for specified Focus and BLM sensitive plant species. • The edge of suitable habitat or active nest substrates for the appropriate Focus and BLM Special Status Species. 	Yes		Avoidance buffers to protect special status species such as desert tortoise, migratory birds including raptors, and bats would be implemented per the PDFs within Appendix F of the EA. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.	
Seasonal Restrictions	LUPA-BIO-4	<p>For activities that may impact Focus and BLM Special Status Species, implement all required species-specific seasonal restrictions on pre-construction, construction, operations, and decommissioning activities. Species-specific seasonal restriction dates are described in the applicable CMAs. Alternatively, to avoid a seasonal restriction associated with visual disturbance, installation of a visual barrier may be evaluated on a case-by-case basis that will result in the breeding, nesting, lambing, fawning, or roosting species not being affected by visual disturbance from construction activities subject to seasonal restriction. The proposed installation and use of a visual barrier to avoid a species seasonal restriction will be analyzed in the activity/project specific environmental analysis.</p>	Yes		Seasonal surface occupancy restrictions would be put in place for desert tortoise, migratory birds, and bats as defined in Appendix F of the EA. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.	
Worker Education	LUPA-BIO-5	<p>All activities, as determined appropriate on an activity-by-activity basis, will implement a worker education program that meets the approval of the BLM. The program will be carried out during all phases of the project (site mobilization, ground disturbance, grading, construction, operation, closure/decommissioning or project abandonment, and restoration/reclamation activities). The worker education program will provide interpretation for non-English speaking workers, and provide the same instruction for new workers prior to their working on site. As appropriate based on the activity, the program will contain information about:</p> <ul style="list-style-type: none"> • Site-specific biological and nonbiological resources. • Information on the legal protection for protected resources and penalties for violation of federal and state laws and administrative sanctions for failure to comply with LUPA CMA requirements intended to protect site-specific biological and nonbiological resources. • The required LUPA and project-specific measures for avoiding and minimizing effects during all project phases, including but not limited to resource setbacks, trash, speed limits, etc. • Reporting requirements and measures to follow if protected resources are encountered, including potential work stoppage and requirements for notification of the designated biologist. • Measures that personnel can take to promote the conservation of biological and nonbiological resources. 	Yes		A worker education program would be implemented as associated with desert tortoise protection, raven control, and speed limits per Section 5.6 of the Plan of Operations and included as a PDF within Appendix F of the EA. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.	
Subsidized Predators Standards	LUPA-BIO-6	<p>Subsidized predator standards, approved by BLM, in coordination with the USFWS and CDFW, will be implemented during all appropriate phases of activities, including but not limited to renewable energy activities, to manage predator food subsidies, water subsidies, and breeding sites including the following:</p> <ul style="list-style-type: none"> • Common Raven management actions will be implemented for all activities to address food and water subsidies and roosting and nesting sites specific to the Common Raven. These include identification of monitoring reporting procedures and requirements; strategies for refuse management; as well as design strategies and passive repellent methods to avoid providing perches, nesting sites, and roosting sites for Common Ravens. • The application of water and/or other palliatives for dust abatement in construction areas and during project operations and maintenance will be done with the minimum amount of water necessary to meet safety and air quality standards and in a manner that prevents the formation of puddles, which could attract wildlife and wildlife predators. • Following the most recent national policy and guidance, BLM will take actions to not introduce, dispose of, or release any non- native species into areas of native habitat, suitable habitat, and natural or artificial waterways/water bodies containing native species. <p>All activity work areas will be kept free of trash and debris. Particular attention will be paid to "micro-trash" (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny) and organic waste that may subsidize predators. All trash will be covered, kept in closed containers, or otherwise removed from the project site at the end of each day or at regular intervals prior to periods when workers are not present at the site.</p> <ul style="list-style-type: none"> • In addition to implementing the measures above on activity sites, each activity will provide compensatory mitigation that contributes to LUPA-wide raven management. 	Yes		Proposed desert tortoise protective measures, measures to prevent perching and nesting, water usage guidelines, and measures to control debris and trash would all be implemented per the PDFs in Appendix F of the EA. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.	

LUPA Wide					
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
Restoration of Areas Disturbed by Construction Activities But Not Converted by Long-Term Disturbance	LUPA-BIO-7	<p>Where DRECP vegetation types or Focus or BLM Special Status Species habitats may be affected by ground- disturbance and/or vegetation removal during pre-construction, construction, operations, and decommissioning related activities but are not converted by long-term (i.e., more than two years of disturbance, see Glossary of Terms) ground disturbance, restore these areas following the standards, approved by BLM authorized officer, following the most recent BLM policies and procedures for the vegetation community or species habitat disturbance/impacts as appropriate, summarized below:</p> <ul style="list-style-type: none"> • Implement site-specific habitat restoration actions for the areas affected including specifying and using: <ul style="list-style-type: none"> ○ The appropriate seed (e.g., certified weed- free, native, and locally and genetically appropriate seed) ○ Appropriate soils (e.g., topsoil of the same original type on site or that was previously stored by soil type after being salvaged during excavation and construction activities) ○ Equipment ○ Timing (e.g., appropriate season, sufficient rainfall) ○ Location ○ Success criteria ○ Monitoring measures ○ Contingency measures, relevant for restoration, which includes seeding that follows BLM policy when on BLM administered lands. • Salvage and relocate cactus, nolina, and yucca from the site prior to disturbance using BLM protocols. To the maximum extent practicable for short-term disturbed areas (see Glossary of Terms), the cactus and yucca will be re-planted back to the original site. • Restore and reclaim short-term (i.e. 2 years or less, see Glossary of Terms) disturbed areas, including pipelines, transmission projects, staging areas, and short-term construction-related roads immediately or during the most biologically appropriate season as determined in the activity/project specific environmental analysis and decision, following completion of construction activities to reduce the amount of habitat converted at any one time and promote recovery to natural habitats and vegetation as well as climate refugia and ecosystem services such carbon storage. 	Yes		The Project would reclaim disturbed areas, except for the proposed permanent access road for access to Drill Area 1 using site-appropriate, BLM-approved native seed mixtures that are weed-free and compatible with landscape conditions. The Reclamation Plan is included within Appendix E of the EA, and Appendix F further describes PDFs that would be implemented for revegetation. Further mitigation would not be necessary in addition to the PDFs; however, should additional revegetation measures be deemed necessary in combination with those outlined in the Reclamation Plan, this CMA would be implemented.
General Closure and Decommissioning Standards	LUPA-BIO-8	<p>All activities that are required to close and decommission the site (e.g., renewable energy activities) will specify and implement project-specific closure and decommissioning actions that meet the approval of BLM, and that at a minimum address the following:</p> <ul style="list-style-type: none"> • Specifying and implementing the methods, timing (e.g., criteria for triggering closure and decommissioning actions), and criteria for success (including quantifiable and measurable criteria). • Recontouring of areas that were substantially altered from their original contour or gradient and installing erosion control measures in disturbed areas where potential for erosion exists. • Restoring vegetation as well as soil profiles and functions that will support and maintain native plant communities, associated carbon sequestration and nutrient cycling processes, and native wildlife species. • Vegetation restoration actions will identify and use native vegetation composition, native seed composition, and the diversity to values commensurate with the natural ecological setting and climate projections. 	No	Land use does not occur on project site.	The Project proposes short-term exploration activities and would not entail renewable energy activities, thus no closure and decommissioning processes would be required.
Water and Wetland Dependent Species Resources	LUPA-BIO-9	<p>Implement the following general LUPA CMA for water and wetland dependent resources</p> <ul style="list-style-type: none"> • Implement construction site standard practices to prevent toxic chemicals, hazardous materials, and other fluids from entering vegetation type streams, washes, and tributary networks through water runoff, erosion, and sediment transport by, at a minimum, implementing the following: <ul style="list-style-type: none"> ○ On project sites, vehicles and other equipment will be maintained in proper working condition and only stored in designated containment areas where runoff is collected or controlled and that are located outside of streams, washes, and distributary networks to minimize accidental fluids and hazardous materials spills. ○ Hazardous material leaks, spills, or releases will be immediately cleaned and equipment will be repaired upon identification. Removal and disposal of spill and related clean-up materials will occur at an approved off-site landfill. ○ Maintenance and operations vehicles will carry the appropriate equipment and materials to isolate, clean up, and repair any hazardous material leaks, spills, or releases. • Activity-specific drainage, erosion, and sedimentation control actions, which meet the approval of BLM and the applicable regulatory agencies, will be carried out during all appropriate phases of the approved project. These actions, as needed, will address measures to ensure the proper protection of water quality, site-specific stormwater and sediment retention, and design of the project to minimize site disturbance, including the following: <ul style="list-style-type: none"> ○ Identify site-specific surface water runoff patterns and implement measures to prevent excessive and unnatural soil deposition and erosion. ○ Implement measures to maintain natural drainages and to maintain hydrologic function in the event drainages are disturbed. ○ Reduce the amount of area covered by impervious surfaces through use of permeable pavement or other pervious surfaces. Direct runoff from impervious surfaces into retention basins. ○ Stabilize disturbed areas following grading in the manner appropriate to the soil type so that wind or water erosion is minimized. ○ Minimize irrigation runoff by using low or no irrigation native vegetation landscaping for landscaped retention basins. ○ Conduct regular inspections and maintenance of long-term erosion control measures to ensure long-term effectiveness. ○ Project applicants for sites that may affect intermittent and perennial streams, springs, swales, ephemeral washes, wetland vegetation, other DRECP water land covers, or sites occupied by aquatic or riparian Focus and BLM Special Status Species due to groundwater or surface water extraction will conduct hydrologic studies during project planning to determine the potential effect of groundwater and surface water extraction on the hydrologic unit. These studies will include both watershed effects as well as effects on perched, alluvial, and regional aquifers. Projects that are likely to affect ground-water resources in a manner that would result in substantial loss of riparian or wetland communities or habitat for riparian or aquatic Focus and BLM Special Status Species are prohibited. ○ The use of evaporation ponds for water management will be avoided when the water could harm birds or other terrestrial wildlife due to constituents of concern present in the wastewater (e.g., selenium, hypersalinity, etc.). Evaporation ponds will be configured to minimize attractiveness to shorebirds (e.g., maintain water depths over two feet; maintain steep slopes along edge; enclose evaporation ponds in long-term structures; or obscure evaporation ponds from view using materials that blend in with the natural surroundings). • Ramps that allow the egress of wildlife from ponds or other water management infrastructure will be installed. 	Yes		The Project does not trigger any waste discharge requirements under Title 27, CCR, Section 20005 et seq. Construction Stormwater General Permits are required pursuant to CGP Regulation (NPDES No. CAS000002; SWRCB Order No. 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). A Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented to control sedimentation from disturbance. Best Management Practices (BMPs) would be installed to manage disturbed surfaces. A detailed Spill Containment Plan is identified to prevent the spread of any accidental leakage in storage, fuel and lubricants per the PDFs in Appendix F. Only minor servicing of mobile equipment (greasing and periodic fueling) would be conducted on BLM lands, limiting the potential for diesel fuel spills. Spill response kits would be maintained, pollutants generated would be properly disposed of in accordance with applicable regulations. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented.

LUPA Wide					
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
Standard Practices for Weed Management	LUPA-BIO-10	<p>Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following:</p> <ul style="list-style-type: none"> • Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds. • Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site. • Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds. • Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species. • Reestablish native vegetation quickly on disturbed sites. • Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas. • Use certified weed-free mulch, straw, hay bales, or equivalent fabricated materials for installing sediment barriers. 	Yes		This CMA would be implemented under the Project. SMP would be required to thoroughly clean the tires and undercarriage of vehicles entering or reentering the Project site to remove potential weeds, maintain vehicle wash and inspection stations, and closely monitor materials brought to site, in addition to the PDFs included in Appendix F for revegetation materials and invasive and non-native species management.
Nuisance Animals and Invasive Species	LUPA-BIO-11	<p>Implement the following CMAs for controlling nuisance animals and invasive species:</p> <ul style="list-style-type: none"> • No fumigant, treated bait, or other means of poisoning nuisance animals including rodenticides will be used in areas where Focus and BLM Special Status Species are known or suspected to occur. • Manage the use of widely spread herbicides and do not apply herbicides effective against dicotyledonous plants within 1,000 feet from the edge of a 100-year floodplain, stream and wash channels, and riparian vegetation or to soils less than 25 feet from the edge of drains. Exceptions will be made when targeting the base and roots of invasive riparian species such as tamarisk and Arundo donax (giant reed). Manage herbicides consistent with the most current national and California BLM policies. • Minimize herbicide, pesticide, and insecticide treatment in areas that have a high risk for groundwater contamination. • Clean and dispose of pesticide containers and equipment following professional standards. Avoid use of pesticides and cleaning containers and equipment in or near surface or subsurface water. • When near surface or subsurface water, restrict pesticide use to those products labeled safe for use in/near water and safe for aquatic species of animals and plants. 	No		The Project does not propose use of herbicide, pesticides, rodenticides, or insecticides.
Noise	LUPA-BIO-12	<p>For activities that may impact Focus or BLM Special Status Species, implement the following LUPA CMA for noise:</p> <ul style="list-style-type: none"> • To the extent feasible, and determined necessary by BLM to protect Focus and BLM sensitive wildlife species, locate stationary noise sources that exceed background ambient noise levels away from known or likely locations of BLM sensitive wildlife species and their suitable habitat. • Implement engineering controls on stationary equipment, buildings, and work areas including sound-insulation and noise enclosures to reduce the average noise level, if the activity will contribute to noise levels above existing background ambient levels. • Use noise controls on standard construction equipment including mufflers to reduce noise 	Yes		This CMA would be required for implementation. The Project would be required to implement noise controls to the extent feasible given the potential presence of desert tortoise and BLM Sensitive bat species.
General Siting and Design	LUPA-BIO-13	<p>Implement the following CMA for project siting and design</p> <ul style="list-style-type: none"> • To the maximum extent practicable site and design projects to avoid impacts to vegetation types, unique plant assemblages, climate refugia as well as occupied habitat and suitable habitat for Focus and BLM Special Status Species (see "avoid to the maximum extent practicable" in Glossary of Terms). • The siting of projects along the edges (i.e. general linkage border) of the biological linkages identified in Appendix D (Figures D-1 and D-2) will be configured (1) to maximize the retention of microphyll woodlands and their constituent vegetation type and inclusion of other physical and biological features conducive to Focus and BLM Special Status Species' dispersal, and (2) informed by existing available information on modeled focus and BLM Special Status Species habitat and element occurrence data, mapped delineations of vegetation types, and based on available empirical data, including radio telemetry, wildlife tracking sign, and road-kill information. Additionally, projects will be sited and designed to maintain the function of F Special Status Species connectivity and their associated habitats in the following linkage and connectivity areas: <ul style="list-style-type: none"> ○ Within a 5-mile-wide linkage across Interstate 10 centered on Wiley's Well Road to connect the Mule and McCoy mountains (the majority of this linkage is within the Chuckwalla ACEC and Mule-McCoy Linkage ACEC) . ○ Within a 3-mile-wide linkage across Interstate 10 to connect the Chuckwalla and Palen mountains. ○ Within a 1.5-mile-wide linkage across Interstate 10 to connect the Chuckwalla Mountains to the Chuckwalla Valley east of Desert Center. ○ The confluence of Milpitas Wash and Colorado River floodplain within 2 miles of California State Route 78 (this linkage is entirely within the Chuckwalla ACEC) . • Delineate the boundaries of areas to be disturbed using temporary construction fencing and flagging prior to construction and confine disturbances, project vehicles, and equipment to the delineated project areas to protect vegetation types and focus and BLM Special Status Species. • Long-term nighttime lighting on project features will be limited to the minimum necessary for project security, safety, and compliance with Federal Aviation Administration requirements and will avoid the use of constant-burn lighting. • All long-term nighttime lighting will be directed away from riparian and wetland vegetation, occupied habitat, and suitable habitat areas for Focus and BLM Special Status Species. Long-term nighttime lighting will be directed and shielded downward to avoid interference with the navigation of night-migrating birds and to minimize the attraction of insects as well as insectivorous birds and bats to project infrastructure. • To the maximum extent practicable (see Glossary of Terms), restrict construction activity to existing roads, routes, and utility corridors to minimize the number and length/size of new roads, routes, disturbance, laydown, and borrow areas. • To the maximum extent practicable (see Glossary of Terms), confine vehicular traffic to designated open routes of travel to and from the project site, and prohibit, within project boundaries, cross-country vehicle and equipment use outside of approved designated work areas to prevent unnecessary ground and vegetation disturbance. 	Yes		The Project would implement measures to minimize surface disturbance and vegetation disturbance would be avoided to the maximum extent possible per the Plan of Operations (SMP 2021) and the PDFs included in Appendix F. Special status plant and wildlife species are analyzed within the EA. Additional measures under this CMA, as applicable and determined by the BLM, would be implemented.

LUPA Wide					
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
		<ul style="list-style-type: none"> To the maximum extent practicable(see Glossary of Terms) , construction of new roads and/or routes will be avoided within Focus and BLM Special Status Species suitable habitat within identified linkages for those Focus and BLM Special Status Species, unless the new road and/or route is beneficial to minimize net impacts to natural or ecological resources of concern. These areas will have a goal of “no net gain” of project roads and/or routes To the maximum extent practicable (see Glossary of Terms), any new road and/or route considered within Focus and BLM Special Status Species suitable habitat within identified linkages for those Focus and BLM Special Status Species will not be paved so as not to negatively affect the function of identified linkages. Use nontoxic road sealants and soil stabilizing agents. 			
Biology: General Standard Practices	LUPA-BIO-14	<p>Implement the following general standard practices to protect Focus and BLM Special Status Species:</p> <ul style="list-style-type: none"> Feeding of wildlife, leaving of food or trash as an attractive nuisance to wildlife, collection of native plants, or harassing of wildlife on a site is prohibited. Any wildlife encountered during the course of an activity, including construction, operation, and decommissioning will be allowed to leave the area unharmed. Domestic pets are prohibited on sites. This prohibition does not apply to the use of domestic animals (e.g., dogs) that may be used to aid in official and approved monitoring procedures/protocols, or service animals (dogs) under Title II and Title III of the American with Disabilities Act. All construction materials will be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course of these inspections will be allowed to leave the construction area unharmed. All steep-walled trenches or excavations used during the project will be covered, except when being actively used, to prevent entrapment of wildlife. If trenches cannot be covered, they will be constructed with escape ramps, following up-to-date design standards to facilitate and allow wildlife to exit, or wildlife exclusion fencing will be installed around the trench(s) or excavation(s). Open trenches or other excavations will be inspected by a designated biologist immediately before backfilling, excavation, or other earthwork. Minimize natural vegetation removal through implementation of crush and drive or cut or mow vegetation rather than removing entirely. 	Yes		A worker education program, food/trash abatement measures, domestic pet prohibition, wildlife entrapment protective measures, and minimizing vegetative disturbance would be implemented per the PDFs in Appendix F; therefore, this CMA would not be required in addition to the proposed PDFs.
	LUPA-BIO-15	Use state-of-the-art, as approved by BLM, construction and installation techniques, appropriate for the specific activity/project and site, that minimize new site disturbance, soil erosion and deposition, soil compaction, disturbance to topography, and removal of vegetation.	Yes		The Project is designed to minimize impacts, and additional measures would be implemented as appropriate as determined by the BLM; therefore, this CMA is a duplication of the PDFs already included within Appendix F and therefore would not be required for implementation.
Activity-Specific Bird and Bat CMAs	LUPA-BIO-16	<p>For activities that may impact Focus and BLM sensitive birds, protected by the ESA and/or Migratory Bird Treaty Act of 1918, and bat species, implement appropriate measures as per the most up-to-date BLM state and national policy and guidance, and data on birds and bats, including but not limited to activity specific plans and actions. The goal of the activity -specific bird and bat actions is to avoid and minimize direct mortality of birds and bats from the construction, operation, maintenance, and decommissioning of the specific activities.</p> <p>Activity-specific measures to avoid and minimize impacts may include, but are not limited to:</p> <ul style="list-style-type: none"> Siting and designing activities will avoid high bird and bat movement areas that separate birds and bats from their common nesting and roosting sites, feeding areas, or lakes and rivers. For activities that impact bird and bat Focus and BLM Special Status Species, during project siting and design, conducting monitoring of bird and bat presence as well as bird and bat use of the project site using the most current survey methods and best procedures available at the time. Reusing or co-locating new transmission facilities and other ancillary facilities with existing facilities and disturbed areas to reduce habitat destruction and avoid additional collision risks. Reducing bird and bat collision hazards by utilizing techniques such as unguyed monopole towers or tubular towers. Where the use of guywires is unavoidable, demarcate guywires using the best available methods to minimize avian species strikes. When fencing is necessary, use bird and bat compatible design standards. Using lighting that does not attract birds and bats or their prey to project sites including using non-steady burning lights (red, dual red and white strobe, strobe- like flashing lights) to meet Federal Aviation Administration requirements, using motion or heat sensors and switches to reduce the time when lights are illuminated, using appropriate shielding to reduce horizontal or skyward illumination, and avoiding the use of high-intensity lights (e.g., sodium vapor, quartz, and halogen). Implementing a robust monitoring program to regularly check for wildlife carcasses, document the cause of mortality, and promptly remove the carcasses. Incorporating a bird and bat use and mortality monitoring program during operations using current protocols and best procedures available at time of monitoring 	Yes		SMP has committed to implement species-specific avoidance buffers around raptor and migratory bird nests as well as bat maternity roosts as described within Chapter 3 of the EA and within the PDFs in Appendix F. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented in addition to the proposed PDFs in Appendix F.
Activity-Specific Bird and Bat CMAs	LUPA-BIO-17	<p>For activities that may result in mortality to Focus and BLM Special-Status bird and bat species, a Bird and Bat Conservation Strategy (BBCS) will be prepared with the goal of assessing operational impacts to bird and bat species and incorporating methods to reduce documented mortality. The BBCS actions for impacts to birds and bats during these activities will be determined by the activity-specific bird and bat operational actions. The strategy shall be approved by BLM in coordination with USFWS, and CDFW as appropriate, and may include, but is not limited to:</p> <ul style="list-style-type: none"> Incorporating a bird and bat use and mortality monitoring program during operations using current protocols and best procedures available at time of monitoring. Activity-specific operational avoidance and minimization actions that reduce the level of mortality on the populations of bird and bat species, such as: <ul style="list-style-type: none"> Use techniques that minimize attraction of birds to hazardous situations that are mistaken to be or simulate natural habitats (e.g., bodies of water). Implement operational management techniques that minimize impacts to migratory birds during diurnal and seasonal cycles (e.g., positioning of heliostats to decrease surface area exposed to avian species). Evaluation and installation of the best available bird and bat detection and deterrent technologies available at the time of construction. <p>Known important Focus and BLM Special Status bird areas are:</p> <ul style="list-style-type: none"> Dry lakes and playas of the north Mojave region, which include China Lake, Koehn Lake, Harper Lake, and Searles Lake (as shown in the Audubon Important Bird Areas in Appendix D) Antelope Valley (as shown in the Audubon Important Bird Areas in Appendix D) Lower Colorado River Valley (as shown in the Audubon Important Bird Areas in Appendix D) 	Yes		SMP has committed to implement species-specific avoidance buffers around raptor and migratory bird nests as well as bat maternity roosts, and measures to minimize wildlife mortalities, as described within Chapter 3 of the EA and within the PDFs in Appendix F. Further mitigation would not be necessary in addition to the PDFs; therefore, this CMA would not be required to be implemented in addition to the proposed PDFs in Appendix F.

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		<ul style="list-style-type: none"> The Salton Sea and bordering areas including agricultural land of the Imperial Valley (as shown in the Audubon Important Bird Areas in Appendix D) Documented avian movement corridors along the north slope of the San Gabriel and San Bernardino mountain ranges Other regionally important seasonal use areas and migratory corridors identified in future studies or otherwise documented in the scientific literature over the term of the LUPA <p>The following provides the DRECP vegetation type, and Focus and BLM Special Status Species biological CMAs to be implemented throughout the LUPA Decision Area.</p> <p>Riparian and Wetland Vegetation Types and Associated Species (RIPWET)</p> <p><u>Riparian Vegetation Types</u></p> <ul style="list-style-type: none"> Madrean Warm Semi-Desert Wash Woodland/Scrub Mojavean Semi-Desert Wash Scrub Sonoran-Coloradan Semi-Desert Wash Woodland/Scrub Southwestern North American Riparian Evergreen and Deciduous Woodland Southwestern North American Riparian/Wash Scrub <p><u>Wetland Vegetation Types</u></p> <ul style="list-style-type: none"> Arid west freshwater emergent marsh Californian Warm Temperate Marsh/Seep North American Warm Desert Alkaline Scrub and Herb Playa and Wet Flat Southwestern North American Salt Basin and High Marsh <p><u>Riparian and Wetland Bird Focus Species</u></p> <ul style="list-style-type: none"> Willow Flycatcher Southwestern Willow Flycatcher Least Bell's Vireo Western Yellow-billed Cuckoo Yuma Clapper Rail California Black Rail Tricolored Blackbird <p><u>Fish Focus Species</u></p> <ul style="list-style-type: none"> Desert pupfish Mohave Tui Chub Owens Tui Chub Owens Pupfish 			
Other Riparian & Wetland Focus Species: Tehachapi Slender Salamander	LUPA-BIO-RIPWET-1	<p>The riparian and wetland DRECP vegetation types and other features listed in Table 17 will be avoided to the maximum extent practicable, except for allowable minor incursions (see Glossary of Terms for "avoidance to the maximum extent practicable" and "minor incursion") with the specified setbacks.</p> <p>For minor incursion (see "minor incursion" in the Glossary of Terms) to the DRECP riparian vegetation types, wetland vegetation types, or encroachments on the setbacks listed in Table 17, the hydrologic function of the avoided riparian or wetland communities will be maintained.</p> <ul style="list-style-type: none"> Minor incursions in the riparian and wetland vegetation types or other features including the setbacks listed in Table 17 will occur outside of the avian nesting season, February 1 through August 31 or otherwise determined by BLM, USFWS and CDFW if the minor incursion(s) is likely to result in impacts to nesting birds. 	No	Resource not found on the project site	There is no riparian or wetland vegetation present within the Project Area.
	LUPA-BIO-RIPWET-2	Hydrologic function of the following DRECP vegetation types will be maintained: North American Warm Desert Alkaline Scrub and Herb Playa and Wet Flat, Southwestern North American Salt Basin and High Marsh, and other undifferentiated wetland-related land covers (i.e., "Playa," "Wetland," and "Open Water").	No	Resource not found on the project site	There is no riparian or wetland vegetation present within the Project Area.
BLM Special Status Riparian Bird Species	LUPA-BIO-RIPWET-3	<p>For activities that occur within 0.25 mile of a riparian or wetland DRECP vegetation type and may impact BLM Special Status riparian and wetland birds species, conduct a pre-construction/activity nesting bird survey for BLM Special Status riparian and wetland birds according to agency-approved protocols.</p> <ul style="list-style-type: none"> Based on the results of the nesting bird survey above, setback activities that are likely to impact BLM Special Status riparian and wetland bird species, including but not limited to pre-construction, construction and decommissioning, 0.25 mile from active nests Special Status during the breeding season (February 1 through August 31 or otherwise determined by BLM, USFWS and CDFW). For activities in areas covered by this provision that occur during the breeding season and that last longer than one week, nesting bird surveys may need to be repeated, as determined by BLM, in coordination with USFWS and CDFW, as appropriate. No pre-activity nesting bird surveys are necessary for activities occurring outside of the breeding season. 	No	Project is not located in or near the area specified in the CMA.	There is no riparian or wetland vegetation present within the Project Area.
Federally Listed Fish Species	LUPA-BIO-RIPWET-4	<p>Setback pre-construction, construction, and decommissioning activities and other activities that may impact federally listed fish species, 0.25 mile from the edge of existing or newly discovered occurrences of federally listed fish species, except for minor incursions (see Glossary of Terms).</p> <ul style="list-style-type: none"> Demonstrate neutral or beneficial long-term hydrologic effects on federally listed fish species and the adjoining riparian and wetland habitat prior to seeking authorization for and commencing a minor incursion. 	No	Resource not found on the project site	There are no fish species present within the Project Area.
	LUPA-BIO-RIPWET-5	Site and design activities to fully avoid operational impacts to existing and newly discovered occurrences of federally listed fish species.	No	Resource not found on the project site	There are no fish species present within the Project Area.
Tehachapi Slender Salamander	LUPA-BIO-RIPWET-6	Avoid pre-construction, construction, and decommissioning activities or other activities that may impact the Tehachapi slender salamander within 0.25 mile of existing or newly discovered occurrences of or suitable habitat for Tehachapi slender salamander, except for minor incursions (see Glossary of Terms).	No	Project not within the range or habitat of this species.	The Tehachapi Slender Salamander does not occur within BLM El Centro Field Office-administered lands.
	LUPA-BIO-RIPWET-7	<p>Construct culverts or other suitable below-grade crossings for new or improved roadways that bisect suitable habitat for the Tehachapi Slender Salamander.</p> <ul style="list-style-type: none"> Construct barriers to reduce at-grade crossings along new or improved roadways that bisect suitable habitat. 	No	Project not within the range or habitat of this species.	The Tehachapi Slender Salamander does not occur within BLM El Centro Field Office-administered lands.
Dune DRECP Vegetation Types, Aeolian Processes and Associated Species (DUNE): Aeolian Processes	LUPA-BIO-DUNE-1	Because DRECP sand dune vegetation types and Aeolian sand transport corridors are, by definition, shifting resources, activities that potentially occur within or bordering the sand dune DRECP vegetation types and/or Aeolian sand transport corridors must conduct studies to verify the location [refer to Appendix D, Figure D-7] and extent of the sand resource(s) for the activity-specific environmental analysis to determine:	No	Project is not located in or near the area specified in the CMA.	There are no Aeolian sand transport corridors within or in the vicinity of the Project Area.

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		<ul style="list-style-type: none"> Whether the proposed activity(s) occur within a sand dune or an Aeolian sand transport corridor If the activity(s) is subject to dune/Aeolian sand transport corridor CMAs If the activity(s) needs to be reconfigured to satisfy applicable avoidance requirements 				
	LUPA-BIO-DUNE-2	Activities that potentially affect the amount of sand entering or transported within Aeolian sand transport corridors will be designed and operated to: <ul style="list-style-type: none"> Maintain the quality and function of Aeolian transport corridors and sand deposition zones, unless related to maintenance of existing [at the time of the DRECP LUPA ROD] facilities/operations/activities Avoid a reduction in sand-bearing sediments within the Aeolian system Minimize mortality to DUNE associated Focus and BLM Special Status Species 	No	Project is not located in or near the area specified in the CMA.	There are no Aeolian sand transport corridors within or in the vicinity of the Project Area.	
	LUPA-BIO-DUNE-3	Any facilities or activities that alter site hydrology (e.g., sediment barrier) will be designed to maintain continued sediment transport and deposition in the Aeolian corridor in a way that maintains the Aeolian sorting and transport to downwind deposition zones. Site designs for maintaining this transport function must be approved by BLM in coordination with USFWS and CDFW as appropriate.	No	Project is not located in or near the area specified in the CMA.	There are no Aeolian sand transport corridors within or in the vicinity of the Project Area.	
Mohave Fringe-Toed Lizard	LUPA-BIO-DUNE-4	Dune formations and other sand accumulations (i.e., sand ramps, sand sheets) with suitable habitat characteristics for the Mojave fringe-toed lizard (i.e., unconsolidated blow-sand) will be mapped according to mapping standards established by the BLM National Operations Center. For minor incursions (see "minor incursion" in the Glossary of Terms) into sand dunes and sand transport areas the activity will be sited in the mapped zone with the least impacts to sand dunes and sand transport and Mojave fringe-toed lizards.	No	Project not within the range or habitat of this species.	The Mohave Fringe-Toed Lizard does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-DUNE-5	If suitable habitat characteristics are identified during the habitat assessment, clearance surveys (see Glossary of Terms) for Mojave fringe-toed lizard will be performed in suitable habitat areas. The following CMAs will be implemented for bat Focus and BLM Special Status Species, including but not limited to those listed below: <ul style="list-style-type: none"> California Leaf-nosed Bat Pallid Bat Townsend's Big-eared Bat 	No	Project not within the range or habitat of this species.	The Mohave Fringe-Toed Lizard does not occur within BLM El Centro Field Office-administered lands.	
Bat Species (BAT)	LUPA-BIO-BAT-1	Activities, except wind projects, will not be sited within 500 feet of any occupied maternity roost or presumed occupied maternity roost as described below. Refer to CMA DFA-VPL-BIO-BAT-1 for distances within DFAs and VPLs.	Yes		The Project would include a PDF to implement a 500-foot avoidance buffer of bat maternity roosts during the bat maternity season, as specified in the PDFs in Appendix F. This CMA would not be required to be implemented as it is a duplicate of the already proposed PDFs.	
	LUPA-BIO-BAT-2	Mines will be assumed to be occupied bat roosts, unless appropriate surveys for bat use have been conducted during all seasons (including maternity, lekking or swarming, and winter use). Mines not considered potential bat roosts are only those that have no structure/workings (adits or shafts or crevices out of view). The following CMAs will be implemented for all plant Focus and BLM Special Status Species, including but not limited to those listed below: <ul style="list-style-type: none"> Alkali mariposa-lily Bakersfield cactus Barstow woolly sunflower Desert cymopterus Little San Bernardino Mountains linanthus Mojave monkeyflower Mojave tarplant Owens Valley checkerbloom Parish's daisy Triple-ribbed milk-vetch 	Yes		The Project would include a PDF to implement a 500-foot avoidance buffer of bat maternity roosts during the bat maternity season, as specified in the PDFs in Appendix F. This CMA would not be required to be implemented as it is a duplicate of the already proposed PDFs.	
Plant Species (PLANT): Plant Focus and BLM Special Status Species CMAs	LUPA-BIO-PLANT-1	Conduct properly timed protocol surveys in accordance with the BLM's most current (at time of activity) survey protocols for plant Focus and BLM Special Status Species.	Yes		A habitat assessment was conducted during the 2021 biological survey and the resulting report was approved by the BLM. The Biological Resources Assessment is included within Appendix E of the EA and is on file with the BLM El Centro Field Office. Further mitigation would not be necessary in addition to the PDFs and an additional habitat assessment would not be required; therefore, this CMA would not be required for implementation.	
	LUPA-BIO-PLANT-2	Implement an avoidance setback of 0.25 mile for all Focus and BLM Special Status Species occurrences. Setbacks will be placed strategically adjacent to occurrences to protect ecological processes necessary to support the plant Species (see Appendix Q, Baseline Biology Report, in the Proposed LUPA and Final EIS [2015], or the most recent data and modeling).	Yes		No avoidance buffers for special status plants have been identified. Should special status plants be identified upon Project surface occupancy, this CMA would be implemented in addition to the PDFs and mitigation measures in Appendix F.	
	LUPA-BIO-PLANT-3	Impacts to suitable habitat for Focus and BLM Special Status plant species should be avoided to the extent feasible, and are limited [capped] to a maximum of 1% of their suitable habitat throughout the entire LUPA Decision Area. The baseline condition for measuring suitable habitat is the DRECP modeled suitable habitat for these species utilized in the EIS analysis (2014 and 2015), or the most recent suitable habitat modeling. For those plants with Species Specific DFA Suitable Habitat Impact Caps listed in Table 23 , those caps apply in the DFAs only. Refer to CMA DFA-PLANT-1.	No	Project is not located in or near the area specified in the CMA.	Ground disturbance caps do not apply to mining and mineral exploration projects.	
Special Vegetation Features (SVF)	LUPA-BIO-SVF-1	For activity-specific NEPA analysis, a map delineating potential sites and habitat assessment of the following special vegetation features is required: Yucca clones, creosote rings, Saguaro cactus, Joshua tree woodland, microphyll woodland, Crucifixion thorn stands. BLM guidelines for mapping/surveying cactus, yuccas, and succulents shall be followed.	Yes	Resource not found on the project site	Special status vegetation species specified have not been identified within the Project Area; however a habitat assessment identified some limited areas of microphyll woodland, however, direct impacts from project disturbance to this habitat is not anticipated. Pre-construction surveys would occur prior to any surface disturbing activities as outlined in the measures in Appendix F of the EA/MND, and this CMA would be implemented as necessary in coordination with the BLM.	
	LUPA-BIO-SVF-2	Yucca clones larger than 3 meters in diameter (longest diameter if the clone forms an ellipse rather than a circular ring) shall be avoided.	No	Resource not found on the project site	This species is not present within the Project Area.	
	LUPA-BIO-SVF-3	Creosote bush rings (see Glossary of Terms) larger than 5 meters in diameter (longest diameter if the "ring" forms an ellipse rather than a circle) shall be avoided.	No	Resource not found on the project site	This species is not present within the Project Area.	
	LUPA-BIO-SVF-4	Saguaro cactus should be managed in such a way as to provide long-term habitat for the California populations not just individual plants, except in DFAs.	No	Resource not found on the project site	This species is not present within the Project Area.	
	LUPA-BIO-SVF-5	Joshua tree woodland (<i>Yucca brevifolia</i> Woodland Alliance): impacts to Joshua tree woodlands (see Glossary of Terms) will be avoided to the maximum extent practicable (see Glossary of Terms), except for minor incursions (see Glossary of Terms).	No	Project not within the range or habitat of this species.	Joshua trees do not occur within BLM El Centro Field Office-administered lands.	

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	LUPA-BIO-SVF-6	Microphyll woodland: impacts to microphyll woodland (see Glossary of Terms) will be avoided, except for minor incursions (see Glossary of Terms).	Yes		There are very limited microphyll woodland occurrences within the Project Area; however, if identified upon Project surface occupancy, this CMA would be implemented.
	LUPA-BIO-SVF-7	Crucifixion thorn stands: (<i>Castela emoryi</i> Shrubland Special Stands) Crucifixion thorn stands with greater than 100 individuals will be avoided.	No	Resource not found on the project site	This species is not present within the Project Area.
General Vegetation Management (VEG)	LUPA-BIO-VEG-1	Management of cactus, yucca, and other succulents will adhere to current up-to-date BLM policy.	Yes		Any potential disturbance would be minimized per the measures in the Reclamation Plan. This CMA would be implemented should additional measures be determined necessary by the BLM for impact minimization to these species.
	LUPA-BIO-VEG-2	Promote appropriate levels of dead and downed wood on the ground, outside of campground areas, to provide wildlife habitat, seed beds for vegetation establishment, and reduce soil erosion, as determined appropriate on an activity-specific basis.	Yes		The detailed Reclamation Plan has been submitted to the Imperial County Planning Department and is under review with the California Division of Mining and Reclamation, which identifies appropriate measures using existing dead/downed wood; however, this CMA would be required to be implemented for appropriate monitoring.
	LUPA-BIO-VEG-3	Allow for the collection of plant material consistent with the maintenance of natural ecosystem processes.	No	Land use does not occur on project site.	The Project would not involve collection of plant material.
	LUPA-BIO-VEG-4	Within the Bishop Field Office area, provide yearlong protection of endangered, threatened, candidate, and sensitive plant and animal habitats. Yearlong protection means that no discretionary actions which would adversely affect target resources will be allowed.	No	Project is not located in or near the area specified in the CMA.	This CMA is specific to the Bishop Field Office.
	LUPA-BIO-VEG-5	All activities will follow applicable BLM state and national regulations and policies for salvage and transplant of cactus, yucca, other succulents, and BLM Sensitive plants.	No	Land use does not occur on project site.	No salvage or transplant of cactus, yucca, other succulents, or BLM Sensitive Species would occur under the Project.
	LUPA-BIO-VEG-6	BLM may consider disposal of succulents through public sale, as per current up-to-date state and national policy.	No	Land use does not occur on project site.	The Project would not involve disposal of succulents through public sale.
Individual Focus Species (IFS): Desert Tortoise	LUPA-BIO-IFS-1	Activities within desert tortoise linkages, identified in Appendix D, that may have a negative impact on the linkage will require an evaluation, in the environmental document(s), of the effects on the maintenance of long-term viable desert tortoise populations within the affected linkage. The analysis will consider the amount of suitable habitat, including climate refugia, required to ensure long-term viability within each linkage given the linkage's population density, long-term demographic and genetic needs, degree of existing habitat disturbance/impacts, mortality sources, and most up-to-date population viability modeling. Activities that would compromise the long-term viability of a linkage population or the function of the linkage, as determined by the BLM in coordination with USFWS and CDFW, are prohibited and will require reconfiguration or re-siting.	No	Project is not located in or near the area specified in the CMA.	The Project would not occur within desert tortoise linkages.
	LUPA-BIO-IFS-2	Construction of new roads and/or routes will be avoided to the maximum extent practicable (see Glossary of Terms) within desert tortoise habitat in tortoise conservation areas (TCAs) or tortoise linkages identified in Appendix D, unless the new road and/or route is beneficial to minimize net impacts to natural or ecological resources of concern for desert tortoise. TCAs and identified linkages should have the goal of "no net gain" of road density. Any new road considered within a TCA or identified linkage will not be paved and will be designed and sited to minimize the effect to the function of identified linkages or local desert tortoise populations and shall have a maximum speed limit of 25 miles per hour. Roads requiring the installation of long-term desert tortoise exclusion fencing for construction or operation will incorporate wildlife underpasses (e.g., culverts) to reduce population fragmentation.	No	Project is not located in or near the area specified in the CMA.	The Project would not occur within a Tortoise Conservation Area.
	LUPA-BIO-IFS-3	All culverts for access roads or other barriers will be designed to allow unrestricted access by desert tortoises and will be large enough that desert tortoises are unlikely to use them as shelter sites (e.g., 36 inches in diameter or larger). Desert tortoise exclusion fencing may be utilized to direct tortoise use of culverts and other passages.	No	Land use does not occur on project site.	No culverts would be constructed under the Project. Barriers would be installed to prevent unauthorized vehicular traffic from interfering with the reclamation of access roads. Conceptual locations of the planned safety barriers (or berms) are depicted in Figures 3b and 3g of the Plan of Operations and would be approximately 6 feet in height. Barriers would be temporary and would not have the length to restrict access by desert tortoises.
	LUPA-BIO-IFS-4	In areas where protocol and clearance surveys are required (see Appendix D), prior to construction or commencement of any long-term activity that is likely to adversely affect desert tortoises, desert tortoise exclusion fencing shall be installed around the perimeter of the activity footprint (see Glossary of Terms) in accordance with the Desert Tortoise Field Manual (USFWS 2009) or most up-to-date USFWS protocol. Additionally, short-term desert tortoise exclusion fencing will be installed around short-term construction and/or activity areas (e.g., staging areas, storage yards, excavations, and linear facilities), as appropriate, per the Desert Tortoise Field Manual (USFWS 2009) or most up-to-date USFWS protocol. • Exemption from desert tortoise protocol survey requirements can be obtained from BLM, in coordination with USFWS, and CDFW as applicable, on a case-by-case basis if a designated biologist determines the activity site does not contain the elements of desert tortoise habitat, is unviable for occupancy, or if baseline studies inferred absence during the current or previous active season. • Construction of desert tortoise exclusion fences will occur during the time of year when tortoise are less active in order to minimize impacts and to accommodate subsequent desert tortoise surveys. Any exemption or modification of desert tortoise exclusion fencing requirements will be based on the specifics of the activity and the site-specific population and habitat parameters. Sites with low population density and disturbed, fragmented, or poor habitat are likely to be candidates for fencing requirement exemptions or modifications. Substitute measures, such as on-site biological monitors in the place of the fencing requirement, may be required, as appropriate. • After an area is fenced, and until desert tortoises are removed, the designated biologist is responsible for ensuring that desert tortoises are not being exposed to extreme temperatures or predators as a result of their pacing the fence. Remedies may include the use of shelter sites placed along the fence, immediate translocation, removal to a secure holding area, or other means determined by the BLM, USFWS, and CDFW, as applicable. • Modification or elimination of the above requirement may also be approved if the activity design will allow retention of desert tortoise habitat within the footprint. If such a modification is approved, modified protective measures may be required to minimize impacts to desert tortoises that may reside within the activity area. • Immediately prior to desert tortoise exclusion fence construction, a designated biologist (see Glossary of Terms) will conduct a clearance survey of the fence alignment to clear desert tortoises from the proposed fence line's path. • All desert tortoise exclusion fencing will incorporate desert tortoise proof gates or other approved barriers to prevent access of desert tortoises to work sites through access road entry points. • Following installation, long-term desert tortoise exclusion fencing will be inspected for damage quarterly and within 48 hours of a surface flow of water due to a rain event that may damage the fencing. • All damage to long-term or short-term desert tortoise exclusion fencing will be immediately blocked to prevent desert tortoise access and repaired within 72 hours.	Yes		A BLM-qualified biologist and/or field contact representative would be present (March 15 - November 1) to oversee compliance with protective measures per the PDFs in Appendix F. Exclusionary fencing would be required to prevent desert tortoise crossings and collisions per the mitigation measures in Appendix F. This CMA would not be required to be implemented as it would duplicate the existing PDFs and BLM-required mitigation.

LUPA Wide						
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	LUPA-BIO-IFS-5	Following the clearance surveys (see Glossary of Terms) within sites that are fenced with long-term desert tortoise exclusion fencing a designated biologist (see Glossary of Terms) will monitor initial clearing and grading activities to ensure that desert tortoises missed during the initial clearance survey are moved from harm's way. A designated biologist will inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat (such as, outside the long-term fenced area), before the materials are moved, buried, or capped. As an alternative, such materials shall be capped before storing outside the fenced area or placing on pipe racks. Pipes stored within the long-term fenced area after completing desert tortoise clearance surveys will not require inspection.	Yes		A BLM-qualified biologist and/or field contact representative would be present (March 15 - November 1) to oversee compliance with protective measures per the PDFs in Appendix F. Exclusionary fencing would be required to prevent desert tortoise crossings and collisions per the mitigation measures in Appendix F. This CMA would not be required to be implemented as it would duplicate the existing PDFs and BLM-required mitigation.	
	LUPA-BIO-IFS-6	When working in areas where protocol or clearance surveys are required (see Appendix D), biological monitoring will occur with any geotechnical boring or geotechnical boring vehicle movement to ensure no desert tortoises are killed or burrows are crushed.	No	Land use does not occur on project site.	Geotechnical testing would not be utilized under the Project within the Project Area.	
	LUPA-BIO-IFS-7	A designated biologist (see Glossary of Terms) will accompany any geotechnical testing equipment to ensure no tortoises are killed and no burrows are crushed.	No	Land use does not occur on project site.	Geotechnical boring would not occur under the Project within the Project Area.	
	LUPA-BIO-IFS-8	Inspect the ground under the vehicle for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat outside of areas fenced with desert tortoise exclusion fencing. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location.	Yes		Specific protective measures for tortoises under vehicles are included in the PDFs in Appendix F. If desert tortoise are encountered during construction activities, work would be halted until a BLM-approved Qualified Biologist arrives to relocate the animal. No further mitigation would be required; therefore, this CMA would not be required to be implemented as it would duplicate the existing PDFs.	
	LUPA-BIO-IFS-9	Vehicular traffic will not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.	Yes		The PDFs included in Appendix F state that vehicles would not exceed 20 miles per hour within the Project Area; therefore, this CMA would be implemented for areas that have not been cleared by pre-clearance surveys where desert tortoise may be impacted.	
Flat-Tailed Horned Lizard	LUPA-BIO-IFS-10	Comply with the conservation goals and objectives, criteria, and management planning actions identified in the most recent revision of the Flat-tailed Horned Lizard Rangewide Management Strategy (RMS). Activities will include appropriate design features using the most current information from the RMS and RMS Interagency Coordinating Committee to minimize adverse impacts during siting, design, pre-construction, construction, operation, and decommissioning; ensure that current or potential linkages and habitat quality are maintained; reduce mortality; minimize other adverse impacts during operation; and ensure that activities have a neutral or positive effect on the species.	No	Resource not found on the project site	Habitat is not included in the DRECP FTHL species distribution model or identified occurrences and this species has not been documented within the Project Area.	
Bendire's Thrasher	LUPA-BIO-IFS-11	If Bendire's thrasher is present, conduct appropriate activity-specific biological monitoring (see Glossary of Terms) to ensure that Bendire's thrasher individuals are not directly affected by operations (i.e., mortality or injury, direct impacts on nest, eggs, or fledglings).	No	Resource not found on the project site	Habitat is not included in the DRECP FTHL species distribution model or identified occurrences and this species has not been documented within the Project Area.	
Burrowing Owl	LUPA-BIO-IFS-12	If burrowing owls are present, a designated biologist (see Glossary of Terms) will conduct appropriate activity-specific biological monitoring (see Glossary of Terms) to ensure avoidance of occupied burrows and establishment of the 656 feet (200 meter) setback to sufficiently minimize disturbance during the nesting period on all activity sites, when practical.	Yes		There is a low potential for occurrence within the Project Area; however, should burrowing owls be identified during pre-clearance surveys, this CMA would be implemented in additional the PDFs and mitigation measures in Appendix F.	
	LUPA-BIO-IFS-13	If burrows cannot be avoided on-site, passive burrow exclusion by a designated biologist (see Glossary of Terms) through the use of one-way doors will occur according to the specifications in Appendix D or the most up-to-date agency BLM or CDFW specifications. Before exclusion, there must be verification that burrows are empty as specified in Appendix D or the most up-to-date BLM or CDFW protocols. Confirmation that the burrow is not currently supporting nesting or fledgling activities is required prior to any burrow exclusions or excavations.	Yes		There is a low potential for occurrence within the Project Area; however, should burrowing owls be identified during pre-clearance surveys, this CMA would be implemented in additional the PDFs and mitigation measures in Appendix F.	
	LUPA-BIO-IFS-14	Activity-specific active translocation of burrowing owls may be considered, in coordination with CDFW.	Yes		There is a low potential for occurrence within the Project Area; however, should burrowing owls be identified during pre-clearance surveys, this CMA would be implemented in additional the PDFs and mitigation measures in Appendix F.	
California Condor	LUPA-BIO-IFS-15	All activities will be designed and sited in a manner to avoid or minimize the likelihood of contact, injury, and mortality of California condors. If a condor is identified at a site, the BLM biological staff and USFWS will be immediately notified for guidance.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-16	Flight activity (e.g., surveys, construction, as well as operation and maintenance activities) related to any activities will not be allowed in the airspace extending to 3,000 feet above condor nest sites.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-17	In the range of the California condor, structures supported by guy wires will be marked with recommended bird deterrent devices at the appropriate spacing intervals.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-18	In the range of the California condor, all equipment and work-related materials that are potentially hazardous to condors, including but not limited to items that can be ingested, picked up, or carried away (e.g., loose-wires, open containers with fluids, some construction materials, etc.) will be kept in closed containers either in the work area or placed inside vehicles when they are not being used and at the end of every work day.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-19	In the range of the California condor, when feasible, ethylene glycol-based anti-freeze or other ethylene glycol-based liquid substances will be avoided, and propylene glycol-based antifreeze will be used. Vehicles and equipment using ethylene glycol based substances will be inspected before and after field use as well as during storage on sites for leaks and puddles. Standing fluid will be remediated without unnecessary delay.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-20	Activities that are determined to have a potential risk of taking condors will implement the best detect, deter, and curtailment strategy available at the time of the activity to minimize adverse effects, and avoid or minimize the likelihood of condor injury and mortality. (An example of a 2015 curtailment strategy is shutting down wind generation operations when condor(s) are present, or wind generation facilities switching to night operations only). The strategy must be approved by the BLM and USFWS, in coordination with CDFW as appropriate.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-21	If condors begin to regularly visit a site, BLM may require, in coordination with USFWS, and CDFW as appropriate, the implementation of additional measures to minimize potential impacts to condors. These measures will be based on best available data, activity and areas specifics, and may include, but are not limited to: • Barriers, including welded wire fabric or hardware cloth, will be installed to prevent access around any facility element that poses a danger to condors. • Stainless steel lines, rather than poly chemical lines will be used to preclude condors from obtaining and ingesting pieces of poly chemical lines. • Landing deterrents attached to the walking perching substrates, such as porcupine wire or Daddi Long Legs®.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	

LUPA Wide						
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	LUPA-BIO-IFS-22	Operations and/or activities that reach an activity-specified trigger for condor injury and/or mortality as determined by BLM and USFWS, and CDFW as appropriate, will curtail operations and/or activities using best available techniques, as determined by BLM and USFWS, and CDFW as appropriate. (An example of a 2015 curtailment strategy is shutting down wind generation operations when condor(s) are present, or wind generation facilities switching to night operations only.) If curtailment techniques are not viable or available, then operations and/or activities will be suspended until the injury and/or condor mortality issue is resolved to the satisfaction of BLM and USFWS, and CDFW, as appropriate.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-23	In the range of the California condor, if an activity may have an impact on California condors, a Condor Operations Strategy (COS) will be developed and implemented on an activity-specific basis in order to avoid and/or reduce the likelihood of injury and mortality from activities. The COS shall be approved by BLM in coordination with USFWS, and CDFW as appropriate for third party activities, and may include, but is not limited, to detailing specifics on: the activity-specific detect, deter and curtailment strategy; monitoring approach to detect condor use of the site; adaptive management approach if condors are found to visit the site; and, activity-specific measures that assist in the recovery of condor.	No	Project not within the range or habitat of this species.	The California Condor does not occur within BLM El Centro Field Office-administered lands.	
Golden Eagle	LUPA-BIO-IFS-24	Provide protection from loss and harassment of active golden eagle nests through the following actions: <ul style="list-style-type: none"> Activities that may impact nesting golden eagles, will not be sited or constructed within 1-mile of any active or alternative golden eagle nest within an active golden eagle territory, as determined by BLM in coordination with USFWS as appropriate. 	Yes		Pre-clearance migratory bird surveys would be conducted per the PDFs described in Appendix F; if activity of migratory bird nests, specifically golden eagle nests, are identified, species-specific avoidance buffers would be implemented and nest information would be submitted to the BLM. SMP would coordinate with USFWS as necessary and this CMA would be implemented should it be determined that golden eagle are present and may be impacted.	
	LUPA-BIO-IFS-25	Cumulative loss of golden eagle foraging habitat within a 1 to 4 mile radius around active or alternative golden eagle nests (as identified or defined in the most recent USFWS guidance and/or policy) will be limited to less than 20%. See CONS-BIO-IFS-5 for the requirement in Conservation Lands.	No		Loss of golden eagle foraging habitat is not anticipated to exceed 20 percent. Pre-clearance migratory bird surveys would be conducted per the PDFs described in Appendix F; if activity of migratory bird nests are identified, species-specific avoidance buffers would be implemented. Should golden eagles be identified as present during the pre-clearance surveys, SMP would consult with the USFWS and this CMA would be implemented.	
	LUPA-BIO-IFS-26	For activities that impact golden eagles, applicants will conduct a risk assessment per the applicable USFWS guidance (e.g. the Eagle Conservation Plan Guidance) using best available information as well as the data collected in the pre-project golden eagle surveys.	No		Pre-clearance migratory bird surveys would be conducted per the PDFs described in Appendix F; if activity of migratory bird nests are identified, species-specific avoidance buffers would be implemented. Should golden eagles be identified as present during the pre-clearance surveys, SMP would consult with the USFWS and this CMA would be implemented.	
	LUPA-BIO-IFS-27	If a permit for golden eagle take is determined to be necessary, an application will be submitted to the USFWS in order to pursue a take permit.	No		Pre-clearance migratory bird and raptor surveys would be conducted per the PDFs described in Appendix F; if activity of migratory bird and raptor nests is identified, species-specific avoidance buffers would be implemented. Coordination with USFWS for an eagle take permit is not anticipated based on results of the Biological Resources Assessment; however, should golden eagles be identified as present during the pre-clearance surveys, SMP would consult with the USFWS and this CMA would be implemented.	
	LUPA-BIO-IFS-28	In order to evaluate the potential risk to golden eagles, the following activities are required to conduct 2 years of pre-project golden eagle surveys in accordance with USFWS Eagle Conservation Plan Guidance as follows: <ul style="list-style-type: none"> Wind projects and solar projects involving a power tower Other activities for which the BLM, in coordination with USFWS, and CDFW as appropriate, determines take of golden eagle is reasonably foreseeable or there is a potential for take of golden eagle 	No	Project is not located in or near the area specified in the CMA.	No golden eagles or nests have been identified within the Project Area, therefore golden eagle take would not occur under the Project and is not being requested.	
	LUPA-BIO-IFS-29	For active nests with recreational conflicts that risk the occurrence of take, provide public notification (e.g., signs) of the sensitive area and implement seasonal closures as appropriate.	No	Project is not located in or near the area specified in the CMA.	No golden eagles or nests have been identified within the Project Area, therefore golden eagle take would not occur under the Project and is not being requested.	
	LUPA-BIO-IFS-30	For activities where ongoing take of golden eagles is anticipated, develop advanced conservation practices per USFWS Eagle Conservation Plan Guidance.	No	Land use does not occur on project site.	No golden eagles or nests have been identified within the Project Area, therefore golden eagle take would not occur under the Project and is not being requested.	
	LUPA-BIO-IFS-31	As determined necessary by BLM in coordination with USFWS, and CDFW as appropriate, for activities/projects that are likely to impact golden eagles implement site-specific golden eagle mortality monitoring in support of the pre-construction, pre-activity risk assessment surveys.	No	Land use does not occur on project site.	No golden eagles or nests have been identified within the Project Area, therefore golden eagle take would not occur under the Project and is not being requested.	
Swainson's Hawk	LUPA-BIO-IFS-32	Avoid use of rodenticides and insecticides within five miles of active Swainson's hawk nest.	No	Land use does not occur on project site.	Rodenticides or insecticides are not proposed for use under the Project.	
Desert Bighorn Sheep	LUPA-BIO-IFS-33	Access to, and use of, designated water sources for desert bighorn sheep will not be impeded by activities in designated and new utility corridors.	No	Resource not found on the project site	Desert bighorn sheep have not been identified within the Project Area or vicinity, and the Project would not restrict access to water sources.	
	LUPA-BIO-IFS-34	Transmission projects and new utility corridors will minimize effects on access to, and use of, designated water sources for desert bighorn sheep.	No	Project is not located in or near the area specified in the CMA.	The Project is not a transmission project and does not propose a new utility corridor.	
Mohave Ground Squirrel	LUPA-BIO-IFS-35	Protocol surveys (see Glossary of Terms) are required for activities in Mohave ground squirrel key population centers and linkages as indicated in Appendix D. Results of protocol surveys will be provided to BLM and CDFW to consult on, as appropriate, for third party activities.	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-36	Activities in Mohave ground squirrel key population centers, as identified in Appendix D, requiring an Environmental Impact Statement are required to assess the effect of the activity on the long term function of the affected key population center. <ul style="list-style-type: none"> Activities within a key population center, as identified in Appendix D, must be designed to avoid adversely impacting the long-term function of the affected key population center. 	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-37	Activities in key population centers will be sited in previously disturbed areas, areas of low habitat quality and in areas with low habitat intactness, to the maximum extent practicable (see Glossary of Terms).	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-38	Disturbance of suitable habitat from activities, requiring an EA or EIS, within the Mohave ground squirrel key population centers and linkages (as identified in Appendix D) will not occur during the typical dormant season (August 1 through February 28) unless absence is inferred and supported by protocol surveys or other available data during the previous active season.	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-39	During the typical active Mohave ground squirrel season (February 1 through August 31), conduct clearance surveys throughout the site, immediately prior to initial ground disturbance in the areas depicted in Appendix D. In the cleared areas, perform monitoring to determine if squirrels have entered cleared areas. Contain ground disturbance to within areas cleared of squirrels. <ul style="list-style-type: none"> Detected occurrences of Mohave ground squirrel will be flagged and avoided, with a minimum avoidance area of 50 feet, until the squirrels have moved out of harm's way. A designated biologist (see Glossary of Terms) may also actively move squirrels out of harm's way. 	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	

LUPA Wide						
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	LUPA-BIO-IFS-40	Activities sited in a Mohave ground squirrel linkage (see Appendix D) that may impact the linkage are required to analyze the potential effects on connectivity through the linkage. The activity must be designed to maintain the function of the linkage after construction/implementation and during project/activity operations. Linkage function will be assessed by considering pre- and post-activity ability of the area to support resident Mohave ground squirrels and provide for dispersal of their offspring to key population centers outside the linkage, and dispersal through the linkage between key population centers. Activities that occur in Mohave ground squirrel linkages shown in Appendix D must be configured and located in a manner that does not diminish Mohave ground squirrel populations in the linkage.	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-41	For any ground-disturbing (e.g., vegetation removal, earthwork, trenching) activities, occurrences of Mohave ground squirrel will be flagged and avoided, with a minimum avoidance area of 50 feet, until the squirrels have moved out of harm's way. A designated biologist (see Glossary of Terms) may also actively move squirrels out of harm's way.	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
	LUPA-BIO-IFS-42	Rodenticides will not be used to manage rodents on activity within the range of the Mohave ground squirrel. Use of rodenticide inside of buildings is allowed.	No	Project not within the range or habitat of this species.	The Mohave ground squirrel does not occur within BLM El Centro Field Office-administered lands.	
Compensation	LUPA-BIO-COMP-1	Impacts to biological resources, identified and analyzed in the activity specific environmental document, from activities in the LUPA Decision Area will be compensated using the standard biological resources compensation ratio, except for the biological resources and specific geographic locations listed as compensation ratio exceptions, specifics in CMAs LUPA-BIO-COMP-2 through -4, and previously listed CMAs. Compensation acreage requirements may be fulfilled through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options, depending on the activity specifics and BLM approval/authorization. Compensation for the impacts to designated desert tortoise critical habitat will be in the same critical habitat unit as the impact (see Table 18). Compensation for impacts to desert tortoise will be in the same recovery unit as the impact. Refer to CMA LUPA-COMP-1 and 2 for the timing requirements for initiation or completion of compensation.	No	Resource not found on the project site	Biological resources compensation would not be required under the Project.	
	LUPA-BIO-COMP-2	Birds and Bats – The compensation for the mortality impacts to bird and bat Focus and BLM Special Status Species from activities will be determined based on monitoring of bird and bat mortality and a fee re-assessed every 5 years to fund compensatory mitigation. The initial compensation fee for bird and bat mortality impacts will be based on pre-project monitoring of bird use and estimated bird and bat species mortality from the activity. The approach to calculating the operational bird and bat compensation is based on the total replacement cost for a given resource, a Resource Equivalency Analysis. This involves measuring the relative loss to a population (debt) resulting from an activity and the productivity gain (credit) to a population from the implementation of compensatory mitigation actions. The measurement of these debts and gains (using the same "bird years" metric as described in Appendix D) is used to estimate the necessary compensation fee. Each activity, as determined appropriate by BLM in coordination with USFWS, and CDFW as applicable, will include a monitoring strategy to provide activity-specific information on mortality effects on birds and bats in order to determine the amount and type of compensation required to offset the effects of the activity, as described above and in detail in Appendix D. Compensation will be satisfied by restoring, protecting, or otherwise improving habitat such that the carrying capacity or productivity is increased to offset the impacts resulting from the activity. Compensation may also be satisfied by non-restoration actions that reduce mortality risks to birds and bats (e.g., increased predator control and protection of roosting sites from human disturbance). Compensation will be consistent with the most up to date DOI mitigation policy.	No	Resource not found on the project site	Potential for bird and bat mortality is expected to be very low. Pre-clearance surveys for migratory birds and raptors would be conducted and species-specific avoidance buffers would be implemented should activity be identified, and a 500-foot avoidance buffers around known features with evidence of bat presence would be implemented during the bat maternity season, as described in the PDFs in Appendix F. Biological resources compensation would not be required under the Project.	
	LUPA-BIO-COMP-3	Golden eagle – BLM and third-party initiated activities, will provide specific golden eagle compensation in accordance with the most up to date BLM or USFWS policies, including applicable USFWS Eagle Conservation Plan Guidance.	No	Resource not found on the project site	No golden eagles or nests have been identified within the Project Area and golden eagle compensation would not be required under the Project	
	LUPA-BIO-COMP-4	Golden eagle – Third-party applicant/activity proponents are required to contribute to a DRECP-wide golden eagle monitoring program, if the activity/project(s) has been determined, through the environmental analysis, to likely impact golden eagles.	No	Resource not found on the project site	No golden eagles or nests have been identified within the Project Area and golden eagle compensation would not be required under the Project	
Air Resources	LUPA-AIR-1	All activities must meet the following requirements: <ul style="list-style-type: none"> • Applicable National Ambient Air Quality Standards (Section 109) • State Implementation Plans (Section 110) • Control of Pollution from Federal Facilities (Section 118) including non-point source • Prevention of Significant Deterioration, including visibility impacts to mandatory Federal Class I Areas (Section 160 et seq.) • Conformity Analyses and Determinations (Section 176(c)) • Apply best management practices on a case by case basis • Applicable local Air Quality Management Jurisdictions (e.g., 403 SCAQMD) 	Yes		The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions and significance thresholds would not be exceeded. No further mitigation would be necessary; this CMA would not be required for implementation in addition to the PDFs already proposed within Appendix F.	
	LUPA-AIR-2	Because project authorizations are a federal undertaking, air quality standards for fugitive dust may not exceed local standards and requirements.	Yes		The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions and significance thresholds would not be exceeded. No further mitigation would be necessary; this CMA would not be required for implementation in addition to the PDFs already proposed within Appendix F.	
	LUPA-AIR-3	Where impacts to air quality may be significant under NEPA, requiring analysis through an Environmental Impact Statement, require documentation for activities to include a detailed discussion and analysis of Ambient Air Quality conditions (baseline or existing), National Ambient Air Quality Standards, criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect impacts and greenhouse gas emissions). This content is necessary to disclose the potential impacts from temporary or cumulative degradation of air quality. The discussion will include a description and estimate of air emissions from potential construction and maintenance activities, and proposed mitigation measures to minimize net PM ₁₀ and PM _{2.5} emissions. The documentation will specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. A Construction Emissions Mitigation Plan will be developed.	No	Land use does not occur on project site.	Impacts to air quality would be negligible, per the analysis within Chapter 3 of the EA.	
	LUPA-AIR-4	Because fugitive dust is the number one source of PM ₁₀ and PM _{2.5} emissions in the Mojave and Sonoran Deserts, fugitive dust impacts to air quality must be analyzed for all activities/projects requiring an Environmental Impact Statement and Environmental Assessment. <ul style="list-style-type: none"> • The NEPA air quality analysis may include modelling of the sources of PM10 and PM2.5 that occur prior to construction and/or ground disturbance from the activity/project, and show the timing, duration and transport of emissions off site. When utilized, the modeling will also identify how the generation and movement of PM10 and PM2.5 will change during and after construction and/or ground disturbance of the activity/project under all activity/project specific NEPA alternatives. The BLM air resource specialist and Authorizing Officer will determine if modelling is required as part of the NEPA analysis based on estimated types and amounts of emissions. 	Yes		The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions. An air emissions inventory was analyzed in Chapter 3 of the EA and because significance thresholds would not be exceeded and the Project would comply with the aforementioned rules, air quality modeling is not determined necessary. No further mitigation would be necessary; this CMA would not be required for implementation in addition to the PDFs already proposed within Appendix F.	

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	LUPA-AIR-5	<p>A fugitive Dust Control Plan will be developed for all projects where the NEPA analysis shows an impact on air quality from fugitive dust.</p> <p>II.4.2.1.3 Comprehensive Trails and Travel Management Components of a Designated Travel Network In 2006, the BLM issued Instruction Memorandum No. 2006-173, which established policy for the use of terms and definitions associated with the management of transportation-related linear features. It also set a data standard and a method for storing electronic transportation asset data. According to the memorandum, all transportation assets are defined as follows:</p> <ul style="list-style-type: none"> • Road: A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use. These may include ROW roads granted by the BLM to other entities. • Primitive Road: A linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not normally meet any BLM road design standards. • Trail: A linear route managed for human-powered, stock, or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles. <p>Designated Roads, Primitive Roads, and Trails are categorized as follows:</p> <ul style="list-style-type: none"> • Tier 1: Roads and Primitive Roads with high values for commercial, recreational, casual uses, and/or to provide access to other recreation activities. • Tier 2: Roads and Primitive Roads with high values for recreation and other motorized access (i.e., important through routes). • Tier 3: Primitive Roads and Trails with high value for motorized and non-motorized recreational pursuits (i.e., spur routes). <p>Off Highway Vehicle Management OHVs are synonymous with off-road vehicles. As defined in 43 CFR 8340.0-5 (a): Off-road vehicle means any motorized/battery-powered vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain.</p> <p>In accordance with 43 CFR 8342.1, the BLM's regulations for OHV management, "the authorized officer shall designate all public lands as open, limited, or closed to [OHVs]." As such, all public lands within the Planning Area have been designated in one of three OHV designation categories, as follows:</p> <ul style="list-style-type: none"> • Open Area Designations are used for intensive OHV or other transportation use areas where there are no special restrictions or where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel. • Limited Area Designations are used where travel must be restricted to meet specific resource/resource use objectives. For areas classified as limited, the BLM must consider a range of possibilities, including travel that will be limited to the following: <ul style="list-style-type: none"> ○ Types or modes of travel, such as foot, equestrian, bicycle, and motorized ○ Existing roads and trails ○ Time or season of use; limited to certain types of vehicles (OHVs, motorcycles, all-terrain vehicles, high clearance, etc.); limited to licensed or permitted vehicles or use ○ BLM administrative use only ○ Other types of limitations • Closed Area Designations prohibit vehicular travel, both motorized and mechanized, transportation cross-country and on routes, except for where valid rights continue to allow access, such as within a designated Wilderness Area. Areas are designated closed if closure to all vehicular use is necessary to protect resources, promote visitor safety, or reduce use conflicts. <p>Back Country Byways Program The BLM developed the Back Country Byway Program to complement the National Scenic Byway Program established by the U.S. Secretary of Transportation. Back County Byways highlight the spectacular nature of the western landscapes. These routes vary from narrow graded roads that are passable only during a few months of the year to two-lane paved highways with year-round access.</p> <p>BLM will comply with the policy and guidelines of the BLM Back Country Byway Program and intent to showcase routes with high scenic and outstanding natural, cultural, historic or other values consistent with the designation. Where appropriate and feasible, BLM will highlight the spectacular nature of the western landscapes through education and interpretation along linear travel routes which provide recreational driving opportunities that allow for the experiences of solitude and isolation by:</p> <ul style="list-style-type: none"> • Maintaining or improving access to BLM recreational destinations and activities • Helping meet the increasing demand for pleasure driving in back country environments. • Facilitating effective partnerships at the local, state, and national levels • Contributing to local and regional economies through increased tourism • Increasing public awareness of the availability of outstanding recreation attractions on public lands • Enhancing the visitors' recreation experience and communicate the multiple-use management message through an effective wayside interpretive program • Increasing the visibility of BLM as a major supplier of outdoor recreation opportunities • Managing the increased use created through the program to minimize impacts to the environment • Contributing to the National Scenic Byways Program in a way that is uniquely suited to national public lands managed by BLM <p>Back country byways are designated by the type of road and the vehicle needed to safely travel the byway. Some back country byways vary from a single track bike trail to a low speed paved road that traverses back country areas. Segments of Back Country Byways are subdivided into four types based on the characteristic of the road.</p> <p>Due to their remoteness, byway travelers should always inquire locally as to byway access and road conditions.</p> <ul style="list-style-type: none"> • Type I – Roads are paved or have an all-weather surface and have grades that are negotiable by 2-wheel drive vehicles and passenger cars. Most of these roads are narrow, slow speed, secondary routes though public lands. • Type II – Roads that require high-clearance type vehicles such as trucks or 4-wheel drive vehicles. These roads are usually not paved, but may have some type of surfacing. Grades, curves, and road surface are such that they can be negotiated with a 2-wheel drive high clearance vehicle without undue difficulty. 	No		The Project would have a negligible impact on air quality from fugitive dust as analyzed in Chapter 3 of the EA. The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions.

LUPA Wide						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
		<ul style="list-style-type: none"> • Type III – Roads require 4-wheel drive vehicles or other specialized vehicles such as dirt bikes, all-terrain vehicles (ATVs), etc. These roads are usually not surfaced, but are managed to provide for safety and resource protection needs. These roads can often have steep grades, uneven tread surfaces, and other characteristics that will require specialized vehicles to negotiate usually at slow speeds. • Type IV – Trails are managed specifically to accommodate dirt bike, mountain bike, snowmobile or all-terrain vehicle use. Most of these routes are single track trails. 				
LUPA-Wide Conservation and Management Actions for Comprehensive Trails and Travel Management	LUPA-CTTM-1	Maintain and manage adequate Road, Primitive Road, and Trail Access to and within SRMAs, ERMAs, OHV Open Areas, and Level 1, 2, and 3 Recreation Facilities.	Yes	Project is not located in or near the area specified in the CMA.	The Project is not located within an SRMA, ERMA, Level 1-3 Recreation Facilities. Open OHV roads occurs within the Project Area and the Project would restrict public access on some existing access roads and the temporary access roads that would be constructed for drill site access. Access road restrictions would be temporary. PDFs and additional mitigation measures for access restriction safety and restriction notifications to the public who may recreate within the area are included in Appendix F. No further mitigation would be required.	
	LUPA-CTTM-2	Avoid activities that would have a significant adverse impact on use and enjoyment within 0.5 mile from centerline of tier 2 Roads/Primitive Roads, and 300 feet from centerline of tier 3 primitive roads/trails. If avoidance of Tier 2 and 3 roads, primitive roads and trails is not practicable, relocate access to the same or higher standard and maintain the setting characteristics and access to recreation activities, facilities, and destinations.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within the distances specified from Tier 2 and 3 roads and trails.	
	LUPA-CTTM-3	Manage other significant linear features such as Mojave Road, Bradshaw Trail, or other recognized linear features to protect their important recreation activities, experiences and benefits. Prohibit activities that have a significant adverse impact on use and enjoyment within 0.5 mile (from centerline) of such linear features.	No	Project is not located in or near the area specified in the CMA.	The significant linear features specified do not occur within the Project Area or vicinity.	
	LUPA-CTTM-4	If residual impacts to Tier 1 and Tier 2 roads/primitive roads, Back Country Byways, or significant linear features occur from adjacent DFAs or other activities, commensurate compensation in the form of enhanced recreation operations, access, recreation facilities or opportunities will be required.	No	Project is not located in or near the area specified in the CMA.	Residual impacts to the resources specified would not occur under the Project as such resources/areas are not present.	
	LUPA-CTTM-5	Manage OHV use per the appropriate Transportation and Travel Management Plan/RMP and/or the SRMA Objectives as outlined in Appendix C as Open, Limited or Closed.	No	Land use does not occur on project site.	No OHV use is proposed under the Project.	
	LUPA-CTTM-6	Manage Back Country Byways as a component of BLM Recreation and Travel and Transportation Management program.	No	Project is not located in or near the area specified in the CMA.	There are no Back Country Byways present within the Project Area.	
	LUPA-CTTM-7	Manage Recreation Facilities consistent with the objectives for the recreation management areas and facilities (see also Section II.4.2.1.10).	Yes		The Tumco Historic Townsite is present within and adjacent to the Project Area. This CMA would be required for Project implementation as determined appropriate by the BLM to be consistent with recreation management objectives.	
Cultural Resources and Tribal Interests	LUPA-CUL-1	Continue working with the California Office of Historic Preservation (OHP) to develop and implement a program for record keeping and tracking agency actions that meets the needs of BLM and OHP organizations pursuant to existing State and National agreements and regulation (BLM State Protocol Agreement; BLM National Programmatic Agreement).	No		This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-2	Using relevant archaeological and environmental data, identify priority geographic areas for new field inventory, based upon a probability for unrecorded significant resources and other considerations.	No		This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-3	Identify places of traditional cultural and religious importance to federally recognized Tribes and maintain access to these locations for traditional use.	No		This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-4	Design activities to minimize impacts on cultural resources including places of traditional cultural and religious importance to federally recognized Tribes.	Yes		A BLM-approved Cultural Resources Inventory Report has been completed. The Project would be in compliance with Section 106 of the NHPA and other applicable requirements; Native American Tribal government-to-government consultation is ongoing and would occur throughout the life of the Project. All documented cultural resource sites would be avoided throughout the life of the Project, including reclamation. Additional mitigation measures for cultural resources have been identified as included in Appendix F. This CMA would not be required to be implemented separately in addition to the PDFs and mitigation measures in Appendix F.	
	LUPA-CUL-5	Develop interpretive material to correspond with recreational uses to educate the public about protecting cultural resources and avoiding disturbance of archaeological sites.	No	Land use does not occur on project site.	This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-6	Develop partnerships to assist in the training of groups and individuals to participate in site stewardship programs.	No	Land use does not occur on project site.	This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-7	Coordinate with visual resources staff to ensure VRM Classes consider cultural resources and tribal consultation to include landmarks of cultural significance to Native Americans (TCPs, trails, etc.).	No		This is a BLM action, not relevant to a proposed project.	
	LUPA-CUL-8	Conduct regular contact and consultation with federally recognized Tribes and individuals, consistent with statute, regulation and policy.	Yes		Section 106 of the NHPA consultation will be ongoing throughout the life of the Project and additional mitigation measures required by the BLM have been included in Appendix F. Impacts to cultural resources would be negligible. No further mitigation measures in addition to the PDFs and mitigation in Appendix F would be required; therefore, this CMA would not need to be implemented separately.	

LUPA Wide						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
	LUPA-CUL-9	Promote DRECP desert vegetation types/communities by avoiding them where possible, then use required compensatory mitigation, off-site mitigation, and other means to ensure Native American vegetation collection areas and practices are maintained.	Yes		Impacts to DRECP desert vegetation types/communities important to Native American vegetation collection and practices are not anticipated; however, if presence of such communities are identified upon surface occupancy of the Project and throughout Section 106 of the NHPA consultation over the life of the Project, this CMA would be required for implementation in addition to the PDFs and mitigation measures for cultural resources identified in Appendix F.	
	LUPA-CUL-10	Promote and protect desert fan palm oasis vegetation type/communities by avoiding where possible, then use required compensatory mitigation, off-site mitigation, and other means to ensure Native American cultural values are maintained.	No	Project not within the range or habitat of this species.	Desert fan palm oasis vegetation type and/or communities are not present within the Project Area or vicinity.	
	LUPA-CUL-11	Promote and protect desert microphyll woodland vegetation type/communities to ensure Native American cultural values are maintained.	Yes		Occurrence is very limited within the Project Area and impacts are not anticipated; however, if presence is identified upon surface occupancy of the Project, this CMA would be required for implementation in addition to the PDFs and mitigation measures for cultural resources identified in Appendix F.	
Lands and Realty	LUPA-LANDS-1	Identify acquired lands as right-of-way exclusion areas when development is incompatible with the purpose of the acquisition.	No	Project is not located in or near the area specified in the CMA.	The Project would not require land acquisition or Right-of-Way exclusions.	
	LUPA-LANDS-2	Prioritize acquisition of land within and adjacent to conservation designation allocations. Acquired land in any land use allocation in this Plan will be managed according to the applicable allocation requirements and/or for the purposes of the acquisition. Management boundaries for the allocation may be adjusted to include the acquired land if the acquisition lies outside the allocation area through a future land use plan amendment process.	No	Project is not located in or near the area specified in the CMA.	The Project would not require land acquisition.	
	LUPA-LANDS-3	Within land use allocations where renewable energy and ancillary facilities are not allowed, an exception exists for geothermal development. Geothermal development will be an allowable use if a geothermal-only DFA overlays the allocation and the lease includes a no surface occupancy stipulation with exception of three specific parcels in the Ocotillo Wells SRMA (refer to the Ocotillo Wells SRMA Special Unit Management Plan in Appendix C).	No	Land use does not occur on project site.	The Project does not involve geothermal development.	
	LUPA-LANDS-4	Nonfederal lands within the boundaries of BLM LUPA land use allocations are not affected by the LUPA.	No	Project is not located in or near the area specified in the CMA.	The Project is located entirely on lands managed by the BLM.	
	LUPA-LANDS-5	The MUCs used to determine land tenure in the CDCA Plan will be replaced by areas listed in the CMAs below.	No	Project is not located in or near the area specified in the CMA.	The land tenure would not be replaced by the below areas under the Project.	
	LUPA-LANDS-6	Any activities on Catellus Agreement lands will be consistent with deed restrictions	No	Project is not located in or near the area specified in the CMA.	The Project does not occur on Catellus Agreement lands.	
	LUPA-LANDS-7	Any activities on Catellus Agreement lands will be subject to the approval of the California State Director.	No	Project is not located in or near the area specified in the CMA.	The Project does not occur on Catellus Agreement lands.	
	LUPA-LANDS-8	The CDCA Plan requirement that new transmission lines of 161kV or above, pipelines with diameters greater than 12 inches, coaxial cables for interstate communications, and major aqueducts or canals for interbasin transfers of water will be located in designated utility corridors, or considered through the plan amendment process outside of designated utility corridors, remains unchanged. The only exception is that transmission facilities may be located outside of designated corridors within DFAs without a plan amendment. This CMA does not apply the Bishop and Bakersfield RMPs.	No	Project is not located in or near the area specified in the CMA.	The Project does not propose transmission lines or pipelines, or major aqueducts and/or canals, or transmission facilities.	
Exchanges with the State of California	LUPA-LANDS-8	Continue land exchanges with the State of California, as per the LUPA goals and objectives in Section II.4.1.4. Refer to Appendix F.	No	Project is not located in or near the area specified in the CMA.	No land exchanges would occur under the Project.	
	LUPA-LANDS-9	Enter into land exchanges with the California State Lands Commission (CSLC) which convey BLM lands suitable for, or developed as, large-scale renewable energy related projects in exchange for CSLC school lands located in and adjacent to designated conservation areas. These exchanges will follow the procedures outlined in Memorandum of Agreement Relating to Land Exchanges to Consolidate Land Parcels signed by the BLM and CSLC on May 21, 2012.	No	Project is not located in or near the area specified in the CMA.	No land exchanges would occur under the Project.	
	LUPA-LANDS-10	Prioritize land exchange proposals from the CSLC on available lands if there are competing land tenure proposals (e.g., land sale or exchange), CSLC proposals that enhance revenues for schools will generally be given priority.	No	Project is not located in or near the area specified in the CMA.	No land exchanges would occur under the Project.	
Livestock Grazing	LUPA-LIVE-1	Adopt the Standards of Rangeland Health and Guidelines for Grazing Management, as detailed below, for the CDCA. This CMA does not apply in the Bishop and Bakersfield RMPs. Standards of Rangeland Health and Guidelines for Grazing Management Regional Public Land Health Standards and Guidelines are required for all BLM administered lands in accordance with Part 43 of the CFR subsection 4180. These regulations require that State Directors, in consultation with Resource Advisory Councils, develop Standards for Rangeland Health and Guidelines for grazing management. The BLM in coordination and consultation with the California Desert District Advisory Committee (see Section 601 of the FLPMA as amended) developed standards and guidelines for the CDCA and used the following land use plan amendments to analyze the specific standard and guideline and to provide the public and opportunity to comment. • Northern and Eastern Colorado Desert Management Plan—NECO—ROD signed Dec. 2002 (BLM 2002a) • Northern and Eastern Mojave Desert Management Plan—NEMO—ROD signed Dec. 2002 (BLM 2002b) • West Mojave Plan—WEMO—ROD signed March 2006 (BLM 2006) The regulations require approval by the Secretary of the Interior prior to full implementation of standards and guidelines. Until approval is received, the fallback standards and guidelines will be used. The regulations require approval by the Secretary of the Interior prior to full implementation of the California Desert District standards and guidelines. Until approval is received, the fallback standards and guidelines will be used in the 5 Desert District Offices. Bakersfield and Bishop Field Offices are covered under the Central California Standards and Guidelines and require no additional approval to continue to use that document. Standards and Guidelines for the CDCA Standards of land health are expressions of levels of physical and biological condition or degree of function required for healthy lands and sustainable uses, and define minimum resource conditions that must be achieved and sustained (BLM 2001). Guideline. A practice, method or technique determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard. Guidelines are tools such as grazing systems, vegetative treatments, or improvement projects that help managers and permittees achieve standards. Guidelines may be adapted or modified when monitoring or other information indicates the guideline is not effective, or a better means of achieving the applicable standard becomes appropriate (H-4180-1 Rangeland Health Standards). The following Standards for the CDCA are from the NECO, NEMO, WEMO, and Palm Springs South Coast Resource Management Plan (PSSCRMP) land use plan amendments. Soils	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.	

LUPA Wide					
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
		<p>Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, geology, land form, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor, and provide a stable watershed, as indicated by:</p> <ul style="list-style-type: none"> • Canopy and ground cover are appropriate for the site. • There is a diversity of plant species with a variety of root depths. • Litter and soil organic matter are present at suitable sites. • Microbiotic soil crusts are maintained and in place at appropriate locations. • Evidence of wind or water erosion does not exceed natural rates for the site. • Soil permeability, nutrient cycling, and water infiltration are appropriate for the soil type. <p>Native Species</p> <p>Healthy, productive, and diverse habitats for native species, including Special Status Species (federal threatened and endangered, federally proposed, federal candidates, BLM sensitive, or California State threatened and endangered, and Unique Plant Assemblages), are maintained in places of natural occurrence, as indicated by:</p> <ul style="list-style-type: none"> • Photosynthetic and ecological processes are continuing at levels suitable for the site, season, and precipitation regimes. • Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring reproduction and recruitment. • Plant communities are producing litter within acceptable limits. • Age class distribution of plants and animals are sufficient to overcome mortality fluctuations. • Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events. <ul style="list-style-type: none"> • Alien and noxious plants and wildlife do not dominate a site or do not require action to prevent the spread and introduction of noxious/invasive weeds. • Appropriate natural disturbances are evident. • Populations and their habitats are sufficiently distributed and healthy to prevent the need for new listing as Special Status Species. <p>Riparian/Wetland and Stream Function</p> <p>Wetland systems associated with subsurface, running, and standing water function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained, as indicated by:</p> <ul style="list-style-type: none"> • Vegetative cover adequately protects banks and dissipates energy during peak water flows. • Dominant vegetation is an appropriate mixture of vigorous riparian species. • Recruitment of preferred species is adequate to sustain the plant community. • Stable soils store and release water slowly. • Plant species present indicate soil moisture characteristics are being maintained. • There is minimal cover of shallow-rooted invader species, and they are not displacing deep-rooted native species. • Shading of stream courses and water courses is sufficient to support riparian vertebrates and invertebrates. • Stream is in balance with water and sediment being supplied by the watershed. • Stream channel size (depth and width) and meander is appropriate for soils, geology, and landscape. • Adequate organic matter (litter and standing dead plant material) is present to protect the site from excessive erosion and to replenish soil nutrients through decomposition. <p>Water Quality</p> <p>Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State standards, as indicated by:</p> <ul style="list-style-type: none"> • The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen. • Standards are achieved for riparian, wetlands, and water bodies. • Aquatic organisms and plants (e.g., macro-invertebrates, fish, algae, and plants) indicate support for beneficial uses. • Monitoring results or other data show water quality is meeting the Standard. <p>The following Guidelines for grazing in the CDCA are from the NECO, NEMO, WEMO, and PSSCRMP land use plan amendments.</p> <ul style="list-style-type: none"> • Facilities will be located away from riparian-wetland areas whenever they conflict with achieving or maintaining riparian-wetland functions. • The development of springs and seeps or other projects affecting water and associated resources will be designed to protect the ecological functions and processes of those sites. • Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland systems (lentic, lotic, springs, adits, and seeps) would be modified so PFC and resource objectives can be met, and incompatible projects would be modified to bring them into compliance. The BLM would consult, cooperate, and coordinate with affected interests and livestock producers prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities would be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives. • Supplements (e.g., salt licks) will be located one-quarter mile or more away from wetland systems so they do not conflict with maintaining riparian-wetland functions. • Management practices will maintain or promote perennial stream channel morphology (e.g., gradient, width/depth ratio, channel roughness, and sinuosity) and functions that are appropriate to climate and landform. • Grazing management practices will meet state and federal water quality Standards. Impoundments (stock ponds) having a sustained discharge yield of less than 200 gallons per day to surface or groundwater, are excepted from meeting state drinking water standards per California State Water Resources Control Board Resolution Number 88-63. • Refer to the most-up-to-date BLM Fire Policy for information related to suppression and use of wildland fire within the planning area. • In years when weather results in extraordinary conditions, seed germination, seedling establishment, and native plant species growth should be allowed by modifying grazing use. • Grazing on designated ephemeral rangeland could be allowed only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided. 			

LUPA Wide					
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
		<ul style="list-style-type: none"> During prolonged drought, range stocking will be reduced to achieve resource objectives and/or prescribed perennial forage utilization. Livestock utilization of key perennial species on year-long allotments should be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicates dry conditions are expected to continue. Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals should be recorded and evaluated for future control measures. Methods and prescriptions should be implemented, and an evaluation would be completed to ascertain future control measures for undesirable species. Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain or enhance habitats of Special Status Species including federally proposed, federal candidates, BLM sensitive, or California State threatened and endangered to promote their conservation. Grazing activities should support biological diversity across the landscape, and native species and microbiotic crusts are to be maintained. <ul style="list-style-type: none"> Experimental research efforts should be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities. Livestock utilization limits of key perennial species will be as shown in (see Table 19) for the various range types. <p>Monitoring Monitoring of grazing allotment resource conditions would be routinely assessed to determine if Public Land Health Standards are being met. In those areas not meeting one or more Standards, monitoring processes would be established where none exist to monitor indicators of health until the Standard or resource objective has been attained. Livestock trail networks, grazed plants, livestock facilities, and animal waste are expected impacts in all grazing allotments and these ongoing impacts would be considered during analysis of the assessment and monitoring process. Activity plans for other uses or resources that overlap an allotment could have prescribed resource objectives that may further constrain grazing activities (e.g., ACEC). In an area where a Standard has not been met, the results from monitoring changes to grazing management required to meet Standards would be reviewed annually. During the final phase of the assessment process, the Range Determination includes the schedule for the next assessment of resource conditions. To attain Standards and resource objectives, the best science would be used to determine appropriate grazing management actions. Cooperative funding and assistance from other agencies, individuals, and groups would be sought to collect prescribed monitoring data for indicators of each Standard.</p>			
LUPA Wide Conservation and Management Actions for Livestock Grazing	LUPA-LIVE-2	In the CDCA only, accept grazing permit/lease donations in accordance with legislation in the Fiscal Year 2012 Appropriations Act (Public Law 112-74).	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-3	In the Bishop and Bakersfield RMPs, determine whether continued livestock grazing would be compatible with achieving land use plan management goals and objectives in the event that the permit/lease is relinquished.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-4	If the BLM determines that the grazing allotment is to be put to a different public purpose than grazing, follow the notification requirements outline in the Grazing Regulations at 43 CFR 4110.4-2(b) and BLM Instruction Memorandum (IM) 2011-181 (BLM 2011), or future policy replacing IM 2011-181.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-5	For grazing allotments within the CDCA that BLM has received a voluntary request for relinquishment prior to fiscal year 2012, continue the planning process for making these allotments unavailable for grazing.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-6	Complete the process for approving rangeland health standards and guidelines for the CDCA Plan (NEMO, WEMO, NECO and PSSCRMP).	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-7	Make Pilot Knob, Valley View, Cady Mountain, Cronese Lake, and Harper Lake allotments, allocations unavailable for livestock grazing and change to management for wildlife conservation and ecosystem function. Reallocate the forage previously allocated to grazing use in these allotments to wildlife and ecosystem functions. Pilot Knob was closed in the WEMO plan amendment. The Cronese Lake, Harper Lake, and Cady Mountain allotments were closed as mitigation for the impacts to the Agassiz's desert tortoise resulting from the Fort Irwin expansion. All forage allocated to livestock grazing in these allotments will be reallocated to wildlife use and ecosystem function.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-8	The following vacant grazing allotments within the CDCA will have all vegetation previously allocated to grazing use reallocated to wildlife use and ecosystem functions and will be closed and unavailable to future livestock grazing: Buckhorn Canyon, Crescent Peak, Double Mountain, Jean Lake, Johnson Valley, Kessler Springs, Oak Creek, Chemehuevi Valley, and Piute Valley.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
	LUPA-LIVE-9	Allocate the forage that was allocated to livestock use in the Lava Mountain and Walker Pass Desert allotments (which have already been relinquished under the 2012 Appropriations Act) to wildlife use and ecosystem function and permanently eliminate livestock grazing on the allotments.	No	Land use does not occur on project site.	The El Centro Field Office does not have any active livestock grazing leases.
Minerals	LUPA-MIN-1	High Potential Mineral Areas (identified in CA GEM data) <ul style="list-style-type: none"> These areas have been identified as mineral lands having existing and/or historic mining activity and a reasonable probability of future mineral resource development. These identified areas will be designated as mineral land polygons on DRECP maps, recognized as probable future development areas for planning purposes and allowable use areas. If an activity is proposed in a High Potential Mineral Area, analyze and consider the mineral resource value in the NEPA analysis. 	No	Project not located on federal lands with this designation.	The Project is not located within a High Potential Mineral Area.
	LUPA-MIN-2	Existing Mineral/Energy Operations <p>Existing authorized mineral/energy operations, including existing authorizations, modifications, extensions and amendments and their required terms and conditions, are designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims subject to valid existing rights. Amendments and expansions authorized after the signing of the DRECP LUPA ROD are subject to applicable CMAs, including ground disturbance caps within Ecological and Cultural Conservation Areas, subject to valid existing rights, subject to governing laws and regulations.</p>	Yes		This CMA would be required for implementation.
	LUPA-MIN-3	Existing High Priority Mineral/Energy Operations Exclusion Areas <ul style="list-style-type: none"> Existing high-priority operation footprints and their identified expansion areas are excluded from DFA and conservation CMAs, but must comply with LUPA-wide CMAs subject to the governing laws and regulations. High priority operation exclusions are referenced by name with their respective footprint (acreage) below. <ul style="list-style-type: none"> MolyCorp REE (General Legal Description: 35° 26'N; 115° 29'W)—10,490.9 surface acres Briggs Au, Etna (General Legal Description: 35° 56'N; 117° 11'W)—3,216.9 surface acres 	No	Project is not located in or near the area specified in the CMA.	The Project is not located within existing High Priority Mineral/Energy Operations Exclusion Areas and therefore would not impact such areas.

LUPA Wide						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
		<ul style="list-style-type: none"> o Cadiz Evaporites (General Legal Description: 34° 17'N; 115° 23'W)—2,591.5 surface acres o Searles Dry Lake (Evaporate) Operation (General Legal Description: 35° 43'N; 117° 19'W)—72,000 surface acres o Bristol Dry Lake (Evaporate) Operation (General Legal Description: 34° 29'N; 115° 43'W)—3,500 surface acres o Mesquite Gold Mine (General Legal Description: 33° 04'N; 114° 59'W)—4,500 surface acres o Hector Mine (Hectorite Clay) (General Legal Description: 34° 45'N; 116° 25'W)—1,500 surface acres o Castle Mountain/Viceroy Mine (Gold) (General Legal Description: 35° 17'N; 115° 3'W)—5,000 surface acres 				
	LUPA-MIN-4	<p>Access to Existing Operations</p> <ul style="list-style-type: none"> • Established designated, approved, or authorized access routes to the aforementioned existing authorized operations and areas will be designated as allowable uses. • Access routes to Plans of Operations and Notices approved under 43 CFR 3809 will be granted subject to valid existing rights listed in 43 CFR 3809.100. 	No	Project is not located in or near the area specified in the CMA.	The Project is not located within existing High Priority Mineral/Energy Operations Exclusion Areas and therefore would not impact access to such areas.	
	LUPA-MIN-5	<p>Areas Located Outside Identified Mineral Areas</p> <ul style="list-style-type: none"> • Areas which could not be characterized due to insufficient data and mineral potential may fluctuate dependent on market economy, extraction technology, and other geologic information- requiring periodic updating. Authorizations are subject to the governing laws and regulations and LUPA requirements. 	No	Project not located on federal lands with this designation.	The Project is located within a historic mining district and a previously disturbed area from past-mining.	
	LUPA-MIN-6	New or expanded mineral operations will be evaluated on a case-by-case basis, and authorizations are subject to LUPA requirements, and the governing laws and regulations.	Yes		All applicable CMAs will be implemented under the Project that are not duplications of the already developed PDFs and the BLM-required additional mitigation measures within Appendix F.	
National Recreation Trails	LUPA-NRT-1	The Nadeau Road NRT was designated by the Secretary of the Interior in June 2013. The California Desert District nominates the Sperry Wash Road, El Mirage Interpretive Trail East, and El Mirage Interpretive Trail West for NRT designation.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within the vicinity of the nominated trails.	
	LUPA-NRT-2	The Nadeau NRT Management Corridor will be protected and activities impacting use and enjoyment of the trail will be avoided within 0.5 mile from centerline of the route.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within the Nadeau National Recreation Trail Corridor.	
Paleontology	LUPA-PALEO-1	If not previously available, prepare paleontological sensitivity maps consistent with the Potential Fossil Yield Classification for activities prior to NEPA analysis.	Yes		The Project Area has very low potential for preservation of significant fossils (i.e., paleontological resources) in the metamorphic Tumco Formation and in the igneous rocks, and low potential for preservation in the young colluvial and alluvial sediments deposited from high energy events. The project is unlikely to negatively impact fossil resources per Stantec 2022c referenced in the EA. This CMA would not be required for implementation as paleontological resources were determined present not affected.	
	LUPA-PALEO-2	Incorporate all guidance provided by the Paleontological Resources Protection Act.				
	LUPA-PALEO-3	Ensure proper data recovery of significant paleontological resources where adverse impacts cannot be avoided or otherwise mitigated.				
	LUPA-PALEO-4	Paleontological surveys and construction monitors are required for ground disturbing activities that require an EIS.	No	Project is not located in or near the area specified in the CMA.	The BLM has determined that the level of NEPA analysis required for the Project as proposed in the Plan of Operations is an EA; therefore, EIS-level analysis associated with this CMA is not relevant.	
Recreation and Visitor Services	LUPA-REC-1	Maintain, and where possible enhance, the recreation setting characteristics – physical components of remoteness, naturalness and facilities; social components of contact, group size and evidence of use; and operational components of access, visitor services and management controls.	Yes		The physical landscape would be reclaimed to near pre-disturbance conditions which would maintain a similar recreational setting within the Project Area as currently existing, per the Reclamation Plan included as Appendix E. No further mitigation would be required in addition to the reclamation measures proposed and the PDFs and mitigation measures included in Appendix F; therefore, this CMA would not be required for implementation.	
	LUPA-REC-2	Cooperate with the network of communities and recreation service providers active within the planning area to protect the principal recreation activities and opportunities, and the associated conditions for quality recreation, by enhancing appropriate visitor services, and by identifying and mitigating impacts from development, inconsistent land uses and unsustainable recreation practices such as minimizing impacts to known rockhounding gathering areas.	Yes	Land use does not occur on project site.	The BLM would require the Project to post signage in designated recreational areas known within the vicinity of the Project Area to notify the public of dates and times that drilling would occur, per the mitigation measures identified in Appendix F. No further mitigation would be required.	
	LUPA-REC-3	Manage lands not designated as SRMAs or ERMAs to meet recreation and visitor services and resource stewardship needs as described in Resource Management Plans (RMPs).				
	LUPA-REC-4	Prohibit activities that have a significant adverse impact and that do not enhance conservation or recreation values within one mile of Level 1 and Level 2 Recreation facility footprint.				
	LUPA-REC-5	Avoid activities that have a significant adverse impact and that do not enhance conservation or recreation values within one-half mile of Level 3 Recreation facility footprint including route access and staging areas. If avoidance is not practicable, the facility must be relocated to the same or higher recreation standard and maintain recreation objectives and setting characteristics.				
	LUPA-REC-6	Limit signage to that necessary for recreation facility/area identification, interpretation, education and safety/regulatory enforcement.				
	LUPA-REC-7	Refer to local RMPs, RMP amendments, and activity level planning for specially designated areas for Vehicular Stopping, Parking, and Camping limitations.				
	LUPA-REC-8	Provide on-going maintenance of recreation and conservation facilities, interpretive and regulatory signs, roads, and trails.				
Soil and Water General	LUPA-SW-1	Stipulations or conditions of approval for any activity will be imposed that provide appropriate protective measures to protect the quantity and quality of all water resources (including ephemeral, intermittent, and perennial water bodies) and any associated riparian habitat (see biological CMAs for specific riparian habitat CMAs). The water resources to which this CMA applies will be identified through the activity-specific NEPA analysis.	Yes		The Project would be required to obtain a California General Permit for protection of stormwater runoff within natural ephemeral drainages and impacts from construction activities. A Stormwater Pollution Prevention Plan would be developed and implemented to control sedimentation. No further mitigation would be required in addition to the PDFs included in Appendix F; therefore, this CMA would not be required for implementation.	
	LUPA-SW-2	Buffer zones, setbacks, and activity limitations specifically for soil and water (ground and surface) resources will be determined on an activity/site-specific basis through the environmental review process, and will be consistent with the soil and water resource goals and objectives to protect these resources. Specific requirements, such as buffer zones and setbacks, may be based, in part, on the results of the Water Supply Assessment defined below. In general, placement of long-term facilities within buffers or protected zones for soil and water resources is discouraged, but may be permitted if soil and water resource management objectives can be maintained.	No	Project is not located in or near the area specified in the CMA.	Buffers would not be required under the Project for soils or water resources.	
	LUPA-SW-3	Where a seeming conflict between CMAs within or between resources arises, the CMA(s) resulting in the most resource protection apply.	Yes		This CMA would be implemented should the proposed PDFs within Appendix F not be sufficient for protection and/or impact minimization of a specific resource.	
	LUPA-SW-4	Nothing in the "Exceptions" below applies to or takes precedence over any of the CMAs for biological resources.	No	Land use does not occur on project site.	The exceptions for groundwater resources below do not apply to the Project.	
Groundwater Resources	LUPA-SW-5	Exceptions to any of the specific soil and water stipulations contained in this section, as well as those listed below under the subheadings "Soil Resources," "Surface Water," and "Groundwater Resources," may be granted by the authorized officer if the applicant submits a plan, or, for BLM-initiated actions, the BLM provides documentation, that demonstrates:	Yes		The estimated amount of water needed for the life of the Project is about 0.736 acre-feet or 0.000098 percent of the total current level of Lake Mead. The natural groundwater recharge of the Ogilby Valley Groundwater Basin is 250 acre-feet per year (California's Groundwater Bulletin 118) and the Project estimated water amount is 0.30 percent of the natural recharge rate. The project does not	

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		<ul style="list-style-type: none"> The impacts are minimal (e.g., no predicted aquifer drawdown beyond existing annual variability in basins where cumulative groundwater use is not above perennial yield and water tables are not currently trending downward) or can be adequately mitigated. 			propose groundwater pumping for Project activities. Procurement of water for Project activities from local vendors may be sourced from groundwater or from the Colorado River	
Soil Resources	LUPA-SW-6	In addition to the applicable required governmental safeguards, third party activities will implement up-to-date standard industry construction practices to prevent toxic substances from leaching into the soil.	Yes		A Spill Contingency Plan would be developed and implemented per the PDF in Appendix F. No further mitigation would be required; therefore, this CMA would not be required for implementation.	
	LUPA-SW-7	Prepare an emergency response plan, approved by the BLM contaminant remediation specialist, that ensures rapid response in the event of spills of toxic substances over soils.	Yes		A Spill Contingency Plan would be developed and implemented per the PDF in Appendix F. No further mitigation would be required; therefore, this CMA would not be required for implementation.	
	LUPA-SW-8	As determined necessary on an activity specific basis, prepare a site plan specific to major soil types present (≥5% of footprint or laydown surfaces) in Wind Erodibility Groups 1 and 2 and in Hydrology Soil Class D as defined by the USDA Natural Resource Conservation Service to minimize water and air erosion from disturbed soils on activity sites.	No	Project is not located in or near the area specified in the CMA.	Soils within the Project Area are not classified as within Wind Erodibility Groups 1 and 2 or in Hydrology Soil Class D.	
	LUPA-SW-9	The extent of desert pavement within the proposed boundary of an activity shall be mapped if it is anticipated that the activity may create erosional or ecologic impacts. Mapping will use the best available data and standards, as determined by BLM. Disturbance of desert pavement within the boundary of an activity shall be limited to the extent possible. If disturbance from an activity is likely to exceed 10% of the desert pavement mapped within the activity boundary, the BLM will determine whether the erosional and ecologic impacts of exceeding the 10% cap by the proposed amount would be insignificant and/or whether the activity should be redesigned to minimize desert pavement disturbance.	No	Project is not located in or near the area specified in the CMA.	Surface disturbing exploration activities are expected to be conducted within previously disturbed areas and outside of potential desert pavement areas.	
	LUPA-SW-10	The extent of additional sensitive soil areas (cryptobiotic soil crusts, hydric soils, highly corrosive soils, expansive soils, and soils at severe risk of erosion) shall be mapped if it is anticipated that an activity will impact these resources. To the extent possible, avoid disturbance of desert biologically intact soil crusts, and soils highly susceptible to wind and water erosion.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within an area with sensitive soils.	
	LUPA-SW-11	Where possible, side casting shall be avoided where road construction requires cut- and-fill procedures.	Yes		All access areas, except for the proposed permanent access road for access to Drill Area 1, would be reclaimed; therefore this CMA would be implemented.	
Surface Water	LUPA-SW-12	Except in DFAs, exclude long-term structures in, playas (dry lake beds), and Wild and Scenic River corridors, except as allowed with minor incursions (see definition in the Glossary of Terms).	No	Land use does not occur on project site.	The Project would not construct long-term structures.	
	LUPA-SW-13	BLM will manage all riparian areas to be maintained at, or brought to, proper functioning condition.	No	Project is not located in or near the area specified in the CMA.	There are no riparian areas within the Project Area and vicinity.	
	LUPA-SW-14	All relevant requirements of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) will be complied with.	Yes		All applicable requirements would be complied with. A jurisdictional determination is currently under review with the US Army Corps of Engineers detailed that no jurisdictional waters or wetlands are present within the Project Area and vicinity. No further mitigation measures would be required; therefore, this CMA would not be required for implementation.	
	LUPA-SW-15	Surface water diversion for beneficial use will not occur absent a state water right.	No	Land use does not occur on project site.	The Project would not divert surface water.	
	LUPA-SW-16	The 100-year floodplain boundaries for any surface water feature in the vicinity of the project will be identified. If maps are not available from the Federal Emergency Management Agency (FEMA), these boundaries will be determined via hydrologic modeling and analysis as part of the environmental review process. Construction within, or alteration of, 100-year floodplains will be avoided where possible, and permitted only when all required permits from other agencies are obtained.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within a 100-year floodplain.	
Groundwater	LUPA-SW-17	An activity's groundwater extraction shall not contribute to exceeding the estimated perennial yield for the basin in which the extraction is taking place. Perennial yield is that quantity of groundwater that can be withdrawn from the groundwater basin without exceeding the long-term recharge of the basin or unreasonably affecting the basin's physical, chemical, or biological integrity. It is further clarified arithmetically below.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
	LUPA-SW-18	Water extracted or consumptively used for the construction, operation, maintenance, or remediation of the project shall be solely for the beneficial use of the project or its associated mitigation and remediation measures, as specified in approved plans and permits.				
	LUPA-SW-19	Water flow meters shall be installed on all extraction wells permitted by BLM.				
	LUPA-SW-20	After application of applicable avoidance and minimization measures, all remaining unavoidable residual impacts to surface waters from the proposed activity shall be mitigated to ensure no net loss of function and value, as determined by the BLM.	No	Land use does not occur on project site.	No unavoidable residual impacts to surface waters are anticipated. A Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented and impacts to surface hydrology would be minimized and reclaimed as described in Appendix F of the EA.	
	LUPA-SW-21	Consideration shall be given to design alternatives that maintain the existing hydrology of the site or redirect excess flows created by hardscapes and reduced permeability from surface waters to areas where they will dissipate by percolation into the landscape.	No	Land use does not occur on project site.	No obstructions to surface water flow are anticipated with the short-term, temporary nature of exploration activities. A SWPPP would be developed and implemented and impacts to surface hydrology would be minimized and reclaimed as detailed in Appendix F of the EA.	
	LUPA-SW-22	All hydrologic alterations shall be avoided that could reduce water quality or quantity for all applicable beneficial uses associated with the hydrologic unit in the project area, or specific mitigation measures shall be implemented that will minimize unavoidable water quality or quantity impacts, as determined by BLM in coordination with USFWS, CDFW, and other agencies, as appropriate. These beneficial uses may include municipal, domestic, or agricultural water supply; groundwater recharge; surface water replenishment; recreation; water quality enhancement; flood peak attenuation or flood water storage; and wildlife habitat.	No	Land use does not occur on project site.	Water required for project activities would be purchased commercially and transported to the project site.	
	LUPA-SW-23	<p>A Water (Groundwater) Supply Assessment shall be prepared in conjunction with the activity's NEPA analysis and prior to an approval or authorization. This assessment must be approved by the BLM in coordination with USFWS, CDFW, and other agencies, as appropriate, prior to the development, extraction, injection, or consumptive use of any water resource. The purpose of the Water Supply Assessment is to determine whether over-use or over-draft conditions exist within the project basin(s), and whether the project creates or exacerbates these conditions. The Assessment shall include an evaluation of existing extractions, water rights, and management plans for the water supply in the basin(s) (i.e., cumulative impacts), and whether these cumulative impacts (including the proposed project) can maintain existing land uses as well as existing aquatic, riparian, and other water-dependent resources within the basin(s). This assessment shall identify:</p> <ul style="list-style-type: none"> All relevant groundwater basins or sub-basins and their relationships. All known aquifers in the basin(s), including their dimensions, whether confined or unconfined, estimated hydraulic conductivity and transmissivity, groundwater surface elevations, and direction and movement of groundwater. All surface water basin(s) related to water runoff, delivery, and supply, if different from the groundwater basin(s). All sites of surface outflow (springs or seeps) contained within the basin(s), including historic sites. All other surface water bodies in the basins(s), including rivers, streams, ephemeral washes/drainages, lakes, wetlands, playas, and floodplains. The water requirements of the proposed project and the source(s) of that water. An analysis demonstrating that water of sufficient quantity and quality is available from identified source(s) for the life of the project. 	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	

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Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
		<ul style="list-style-type: none"> An analysis of potential project-related impacts on water quality and quantity needed for beneficial uses, reserved water rights, existing groundwater users, or habitat management within or down gradient of the groundwater basin within which the project would be constructed. The above analyses shall be in the form of a numerical groundwater model. The model extent shall encompass the groundwater basin within which the project would be constructed, and any groundwater-dependent resources within or down gradient of that basin. <p>The primary product of the Water Supply Assessment shall be a baseline water budget, which shall be established based on the best-available data and hydrologic methods for the identified basin(s). This water budget shall classify and describe all water inflow and outflow to the identified basin(s) or system using best-available science and the following basic hydrologic formula or a derivation: $P - R - E - T - G = \Delta S$</p> <p>where P is precipitation and all other water inflow or return flow, R is surface runoff or outflow, E is evaporation, T is transpiration, G is groundwater outflow (including consumptive component of existing pumping), and ΔS is the change in storage. The volumes in this calculation shall be in units of either acre-feet per year or gallons per year. The water budget shall quantify the existing perennial yield of the basin(s). Perennial yield is defined arithmetically as that amount such that $P - R - E - T - G$ is greater than or equal to 0</p> <p>Water use by groundwater-dependent resources is implicitly included in the definition of perennial yield. For example, in many basins the transpiration component (T) includes water use by groundwater-dependent vegetation. Similarly, groundwater outflow (G) includes discharge to streams, springs, seeps, and wetlands. If one or more budget components is altered, then one or more of the remaining components must change for the hydrologic balance to be maintained. For example, an increase in the consumptive component of groundwater pumping can lower the water table and reduce transpiration by groundwater-dependent vegetation. The groundwater that had been utilized by the groundwater-dependent vegetation would then be considered "captured" by groundwater pumping. Similarly, increased groundwater consumption can capture groundwater that discharges to streams, springs, seeps, wetlands and playas. These changes can occur slowly over time, and may require years or decades before the budget components are fully adjusted. Accordingly, the water/groundwater supply assessment requires that the best-available data and hydrologic methods be employed to quantify these budgets, and that groundwater consumption effects on groundwater-dependent ecosystems be identified and addressed.</p> <p>The Water Supply Assessment shall also address:</p> <ul style="list-style-type: none"> Estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin(s), including the project, for the life of the project through the decommissioning phase Potential to cause subsidence and loss of aquifer storage capacity due to groundwater pumping Potential to cause injury to other water rights, water uses, and land owners Changes in water quality and quantity that affect other beneficial uses Effects on groundwater dependent vegetation and groundwater discharge to surface water resources such as streams, springs, seeps, wetlands, and playas that could impact biological resources, habitat, or are culturally important to Native Americans Additional field work that may be required, such as an aquifer test, to evaluate site specific project pumping impacts and if necessary, establish trigger points that can be used for a Groundwater Water Monitoring and Mitigation Plan The mitigation measures required, if there are significant or potentially significant impacts on water resources include but are not limited to, the use of specific technologies, management practices, retirement of active water rights, development of a recycled water supply, or water imports 				
	LUPA-SW-24	A Groundwater Monitoring and Reporting Plan, and Mitigation Action Plan shall be prepared to verify the Water Supply Assessment and adaptively manage water use as part of project operations. This plan shall be approved by BLM, in coordination with USFWS, CDFW, and other agencies as appropriate, prior to the development, extraction, injection, or consumptive use of any water resource. The quality and quantity of all surface water and groundwater used for the project shall be monitored and reported using this plan. Groundwater monitoring includes measuring the effects of a project's groundwater extraction on groundwater surface elevations, groundwater flow paths, changes to groundwater-dependent vegetation, and of aquifer recovery after project decommissioning. Surface water monitoring, if applicable, shall monitor for changes in the flows, water volumes, channel characteristics, and water quality as a result of a project's surface water use. Monitoring frequency and geographic scope and reporting frequency shall be decided on a project and site-specific basis and in coordination with the appropriate agencies that manage the water and land resources of the region. The geographic scope may include at the very least, all basins/sub-basins that potentially receive inflow from the basin where the proposed project may be sited, and all basins/sub-basins that may potentially contribute inflow to the basin where the proposed project is located. The plan shall also detail any mitigation measures that may be required as a result of the project. This plan and all monitoring results shall be made available to BLM. BLM will make the plan and results available to USFWS, CDFW, and other applicable agencies.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
	LUPA-SW-25	Where groundwater extraction, in conjunction with other cumulative impacts in the basin, has potential to exceed the basin's perennial yield or to impact water resources, one or more "trigger points," or specified groundwater elevations in specific wells or surface water bodies, shall be established by BLM. If the groundwater elevation at the designated monitoring wells falls below the trigger point(s)(or exceeds the trigger pumping rate), additional mitigation measures, potentially including cessation of pumping, will be imposed.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
	LUPA-SW-26	Groundwater pumping mitigation shall be imposed if groundwater monitoring data indicate impacts on water-dependent resources that exceed those anticipated and otherwise mitigated for in the NEPA analysis and ROD, even if the basin's perennial yield is not exceeded. Water-dependent resources include riparian or phreatophytic vegetation, springs, seeps, streams, and other approved domestic or industrial uses of groundwater. Mitigation measures may include changes to pumping rates, volume, or timing of water withdrawals; coordinating and scheduling groundwater pumping activities in conjunction with other users in the basin; acquisition of project water from outside the basin; and/or replenishing the groundwater resource over a reasonably short timeframe. For permitted activities, permittees may also be required to contribute funds to basin-wide groundwater monitoring networks in basins such as those encompassed by the East Riverside DFA or in the Calvada Springs/South Pahrump Valley area, and to cooperate in the compilation and analysis of groundwater data.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	

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Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
	LUPA-SW-27	Water-conservation measures shall be required in basins where current groundwater demand is high and has the future potential to rise above the estimated perennial yield (e.g., Pahrump Valley). These measures may include the use of specific technology, management practices, or both. A detailed discussion and analysis of the effectiveness of mitigation measures must be included. Application of these measures shall be detailed in the Groundwater Water Monitoring and Mitigation Plan.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within a basin with current high groundwater demands, and there would be no groundwater extraction activities under the Project.	
	LUPA-SW-28	Groundwater extractions from adjudicated basins, such as the Mojave River Basin, may be subject to additional restrictions imposed by the designated authority; examples include the Mojave Water Agency and San Bernardino County (see County Ordinance 3872). Where provisions of the adjudication allow for acquisition of water rights, project developers could be required to retire water rights at least equal in volume to those necessary for project operation or propose an alternative offset based on the conditions unique to the adjudicated basin.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
	LUPA-SW-29	Groundwater pumping mitigation may be imposed if monitoring data indicate impacts on groundwater or groundwater-dependent habitats outside the DRECP area, including those across the border in Nevada. See LUPA-SW-26 for potential mitigation measures.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
	LUPA-SW-30	Activities shall comply with local requirements for any long term or short term domestic water use and wastewater treatment.	No	Land use does not occur on project site.	The Project would transport water to the Project site using water trucks and no wastewater treatment would occur.	
	LUPA-SW-31	The siting, construction, operation, maintenance, remediation, and abandonment of all wells shall conform to specifications contained in the California Department of Water Resources Bulletins #74-81 and #74-90 and their updates.	No	Land use does not occur on project site.	There would be no new wells constructed under the Project.	
	LUPA-SW-32	Colorado River hydrologic basin - The concepts, principles and general methodology used in the Colorado River Accounting Surface Method, as defined in U.S. Geological Survey Scientific Investigations Report 2008-5113 (USGS 2009), and existing and future updates or a similar methodology, are considered the best available data for assessing activity/project related ground water impacts in the Colorado River hydrologic basin. The best available data and methodology shall be used to determine whether activity/project-related pumping would result in the extracted water being replaced by water drawn from the Colorado River. If activity/project-related groundwater pumping results in the static groundwater level at the well being near (within 1 foot), equal to, or below the Accounting Surface in a basin hydrologically connected to the Colorado River, that consumption shall be considered subject to the Law of the River (Colorado River Compact of 1922 and amendments). In such circumstances, BLM shall require the applicant to offset or otherwise mitigate the volume of water causing drawdown below the Accounting Surface. Details of such mitigation measures and the right to the use of water shall be described in the Groundwater Water Monitoring and Mitigation Plan.	No	Land use does not occur on project site.	There would be no groundwater extraction activities under the Project.	
Soil, Water, and Water-Dependent Resources Restricted to Specific Areas on BLM Lands	LUPA-SW-33	Stipulations for groundwater development in the proximity of Devils Hole: Any development scenario for an activity within 25 miles of Devils Hole shall include a plan to achieve <i>zero-net</i> or <i>net-reduced</i> groundwater pumping to reduce the risk of adversely affecting senior federal reserved water rights, the designated critical habitat of the endangered Devils Hole pupfish, and the free-flowing requirements of the Wild and Scenic Amargosa River. This plan will require operators to acquire one or more minimization water rights (MWRs) in the over-appropriated, over-pumped, and hydraulically connected Amargosa Desert Hydrographic Basin in Nevada. The MWR(s) shall be: (1) an amount equal (at minimum) to that which is needed for construction and operations; (2) historically fully utilized, preferably for agricultural use; and (3) senior and closer to Devils Hole than the proposed point of diversion.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within or in proximity to Devils Hole.	
	LUPA-SW-34	Stipulations for groundwater development in the Calvada Springs/South Pahrump Valley area: Activities in this area shall be required to acquire one or more MWRs in the Pahrump Valley Hydrographic Basin in Nevada. The acquired MWR(s) must: (1) be at least equal to the amount proposed to be required and actually used for project construction and operations; and (2) be fully utilized for at least the prior ten years.	No	Project is not located in or near the area specified in the CMA.	The Project is not located within the Calvada Springs/South Pahrump Valley area.	
	LUPA-SW-35	Stipulations for activities in the vicinity of Death Valley National Park, Joshua Tree National Park, or Mojave National Preserve: The NEPA for activities involving groundwater extraction that are in the vicinity of Death Valley National Park, Joshua Tree National Park, or the Mojave National Preserve shall analyze and address any potential impacts of groundwater extraction on Death Valley National Park, Joshua Tree National Park, or Mojave National Preserve. BLM will consult with the National Park Service on this process. The analysis or analyses shall include: <ul style="list-style-type: none"> • Potential impacts on the water balances of groundwater basins within these parks and preserves • A map identifying all potentially impacted surface water resources in the vicinity of the project, including a narrative discussion of the delineation methods used to discern those surface waters in the field • Any project-related modifications to surface water resources, both temporary and permanent • Analysis of any potential impacts on perennial streams, intermittent streams, and ephemeral drainages that could negatively impact natural riparian buffers • Impacts of any project proposed truncation, realignment, channelization, lining, or filling of surface water resources that could change drainage patterns, reduce available riparian habitat, decrease water storage capacity, or increase water flow velocity or sediment deposition, in particular where stormwater diverted around or through the project site is returned to natural drainage systems downslope of the project • Any potential indirect project-related causes of hydrologic changes that could exacerbate flooding, erosion, scouring, or sedimentation in stream channels • Alternatives and mitigation measures proposed to reduce or eliminate such impacts 	No	Project is not located in or near the area specified in the CMA.	The Project is not located within or in the vicinity of Death Valley National Park, Joshua Tree National Park, or Mojave National Preserve.	
Visual Resources Management	LUPA-VRM-1	Manage Visual Resources in accordance with the VRM classes shown on Figure 9.	Yes		The majority of the Project Area falls within Class III, with some Class IV in the southernmost portion. Impacts to visual resources are analyzed within the EA and visual contrast rating worksheets are provided in Appendix H. The Project would comply with all VRM objectives. Further mitigation would not be required; therefore, this CMA would not be required for implementation in addition to the PDFs in Appendix F and based on the visual resources analysis.	
	LUPA-VRM-2	Ensure that activities within each of the VRM Class polygons meets the VRM objectives described above, as measured through a visual contrast rating process.	Yes		The majority of the Project Area falls within Class III, with some Class IV in the southernmost portion. Impacts to visual resources are analyzed within the EA and visual contrast rating worksheets are provided in Appendix H. The Project would comply with all VRM objectives. Further mitigation would not be required; therefore, this CMA would not be required for implementation in addition to the PDFs in Appendix F and based on the visual resources analysis.	

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Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
	LUPA-VRM-3	Ensure that transmission facilities are designed and located to meet the VRM Class objectives for the area in which they are located. New transmission lines routed through designated corridors where they do not meet VRM Class Objectives will require RMP amendments to establish a conforming VRM Objective. All reasonable effort must be made to reduce visual contrast of these facilities in order to meet the VRM Class before pursuing RMP amendments. This includes changes in routing, using lattice towers (vs. monopole), color treating facilities using an approved color from the BLM Environmental Color Chart CC-001 (dated June 2008, as updated on April 2014, or the most recent version) (vs. galvanized) on towers and support facilities, and employing other BMPs to reduce contrast. Such efforts will be retained even if an RMP amendment is determined to be needed. Visual Resource BMPs that reduce adverse visual contrast will be applied in VRM Class conforming situations. For a reference of BMPs for reducing visual impacts see the "Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands", available at http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/energy/renewable_references.Par.1568.File.dat/RenewableEnergyVisualImpacts_BMPs.pdf , or the most recent version of the document or BMPs for VRM, as determined by BLM.	No	Project is not located in or near the area specified in the CMA.	The Project does not propose transmission facilities.
Wilderness Characteristics	LUPA-WC-1	Complete an inventory of areas for proposed activities that may impact wilderness characteristics if an updated wilderness characteristics inventory is not available.	No	Project is not located in or near the area specified in the CMA.	Lands with Wilderness Characteristics are not present within the Project Area.
	LUPA-WC-2	Employ avoidance measures as described under DFAs and approved transmission corridors.	No	Project is not located in or near the area specified in the CMA.	Lands with Wilderness Characteristics are not present within the Project Area.
	LUPA-WC-3	For inventoried lands found to have wilderness characteristics but not managed for those characteristics compensatory mitigation is required if wilderness characteristics are directly impacted. The compensation will be: <ul style="list-style-type: none"> • 2:1 ratio for impacts from any activities that impact those wilderness characteristics, except in DFAs and transmission corridors • 1:1 ratio for impact from any activities that impact the wilderness characteristics in DFAs and transmission corridors Wilderness compensatory mitigation may be accomplished through acquisition and donation, by willing landowners, to the federal government of (a) wilderness inholdings, (b) wilderness edge holdings that have inventoried wilderness characteristics, or (c) other areas within the LUPA Decision Area that are managed to protect wilderness characteristics. Restoration of impaired wilderness characteristics in Wilderness, Wilderness Study Area, and lands managed to protect wilderness characteristics could be substituted for acquisition.	No	Project is not located in or near the area specified in the CMA.	Lands with Wilderness Characteristics are not present within the Project Area.
	LUPA-WC-4	For areas identified to be managed to protect wilderness characteristics, identified in Figure 7, the following CMAs are required: <ul style="list-style-type: none"> • Include a no surface occupancy stipulation for any leasable minerals with no exceptions, waivers, or modifications. • Exclude these areas from land use authorizations, including transmission. • Close areas to construction of new roads and routes. Vehicles will continue to be permitted on existing designated routes. • Close areas to mineral material sales. • Prohibit commercial or personal-use permits for extraction of materials (e. g. no wood-cutting permits). • Manage the area as VRM II. • Require that new structures and facilities are related to the protection or enhancement of wilderness characteristics or are necessary for the management of uses allowed under the land use plan. • Make lands unavailable for disposal from federal ownership. 	No	Project is not located in or near the area specified in the CMA.	Lands with Wilderness Characteristics are not present within the Project Area.
	LUPA-WC-5	Manage the following Wilderness Inventory Units to protect wilderness characteristics: <ul style="list-style-type: none"> • 132A-2 / 132A-3 / 132B / 136 / 136-1 / 145-1-1 / 145-2-1 / 145-3-1 / 149-2 / 150-2-2 / 158-1 / 158-2 / 159 / 159-1 / 159A-1 / 160 / 160-1 / 160B-2A / 160B-2B / 160B-2F / 160B-3A / 160B-4A / 160B-3B / 160B-4B / 170-1 / 170-3 / 193-1 / 206-1-1 / 206-1-2 / 206-1-3 / 206-1-4 / 222-2-1 / 251-1 / 251-1-1 / 251-1-2 / 251-2-2 / 251-3 / 251A / 252 / 259-1 / 259-2 / 266-1 / 276-1 / 276-3 / 277 / 277A-1 / 278 / 280 / 294-1 / 294-2 / 295 / 295A / 304-2 / 305-1 / 305-2 / 307-1 / 307-2 / 307-1-1 / 307-1-2 / 307-1-3 / 312-1 / 312-2 / 312-3 / 322-1 / 325-1 / 325-2 / 325-3 / 325-4 / 325-5 / 325-7 / 325-8 / 315-14 / 325-17 / 329 / 352-2 / 352A / 352A-1 / 354 / 355-1 / 355-2 / 355-3 	No	Project is not located in or near the area specified in the CMA.	Lands with Wilderness Characteristics are not present within the Project Area.

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Comprehensive Trails & Travel Management	NLCS-CTTM-1	Comprehensive Trails and Travel Management – Trails and Travel Management in California Desert National Conservation Lands will be in accordance with the applicable Transportation and Travel Management Plan. Future Transportation and Travel Management Plans for National Conservation Lands would be developed in accordance to the appropriate BLM guidance and policy. The California Desert National Conservation Land designation will be addressed in those subsequent plans with an emphasis on routes that provide for the conservation, protection, and restoration, as well as recreational use and enjoyment of the California Desert National Conservation Lands that is compatible with the values for which the areas were designated.	No	Land use does not occur on project site.	The Project does not propose transportation routes for conservation, protection, restoration, or recreational use.
Cultural Resources & Tribal Interests	NLCS-CUL-1	Any adverse effects to historic properties resulting from allowable uses will be addressed through the Section 106 process of the National Historic Preservation Act and the implementing regulations at 36 CFR Part 800. Resolution of adverse effects will in part be addressed via alternative mitigation that includes regional synthesis and interpretation of existing archaeological data in addition to mitigation measures determined through the Section 106 consultation process.	Yes		The Project would avoid all cultural resources. A Class III Cultural Resources Inventory Report is on file with the BLM El Centro Field Office. Additional mitigation measures for protection of cultural resources would be required by the BLM and are included as Appendix F of the EA. Section 106 of the NHPA consultation would continue throughout the life of the Project.
Ground Disturbance Caps	NLCS-DIST-1	Ground Disturbance Caps – Development in California Desert National Conservation Lands are limited by the 1% ground disturbance cap which is the total ground disturbance (existing [past and present] plus future), or to the level allowed by collocated ACEC(s) with its smaller ground disturbance cap units, whichever is more restrictive. Refer to Appendix B for the ACEC Special Unit Management Plans. The ground disturbance caps will be used, managed and implemented following the methodology in the California Desert National Conservation Lands and ACEC land allocation sections, and repeated in, NLCS-DIST-2 and ACEC-DIST-2 .	No	Land use does not occur on project site.	Ground disturbance caps do not apply to mining or mineral exploration projects.
	NLCS-DIST-2	Ground Disturbance Cap Management and Implementation. Specifically, the ground disturbance caps would be implemented as a limitation and objective using the following process: <ul style="list-style-type: none"> • Limitation: If the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC unit is below the designated ground disturbance cap (see calculation method), the ground disturbance cap is a limitation on ground-disturbing activities within the California Desert National Conservation Lands and/or ACEC, and precludes approval of future discretionary ground disturbing activities (see exceptions below) above the cap. • Objective, triggering disturbance mitigation: If the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is at or above its designated cap, the cap functions as an objective, triggering the specific ground disturbance mitigation requirement. Ground disturbance mitigation is unique to ground disturbance cap implementation and a discrete form of compensatory mitigation, separate from other required mitigation in the DRECP LUPA (see Glossary of Terms). The ground disturbance mitigation requirement remains in effect for all (see exceptions below) activities until which time the California Desert National Conservation Lands and/or ACEC drops below the cap, at which time the cap becomes a limitation and the ground disturbance mitigation is no longer a requirement. If ground disturbance mitigation opportunities do not exist in a unit (see below for “unit” of measurement), ground disturbing activities (see exceptions below) will not be allowed in that unit until which time opportunities for ground disturbance mitigation in the unit become available (see types and forms of ground disturbance mitigation below) or the unit recovers and drops below the cap. • Actions necessary to control the immediate impacts of an emergency that are urgently needed to reduce the risk to life, property, or important natural, cultural, or historic resources, in accordance with 43 Code of Federal Regulations (CFR) 46.150, are an exception to the ground disturbance cap limitation, objective and ground disturbance mitigation requirements. Ground disturbance from emergency actions will count in the ground disturbance calculation for other activities, and also be available for ground disturbance mitigation opportunities and restoration, as appropriate. 	No	Land use does not occur on project site.	Ground disturbance caps do not apply to mining or mineral exploration projects.

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		<p>Calculating ground disturbance: Ground disturbance will be calculated on BLM managed land at the time of an individual proposal, by BLM for a BLM initiated action or by a third party for an activity needing BLM approval or authorization, for analysis in the activity-specific National Environmental Policy Act (NEPA) document. Once BLM approves/accepts or conducts a calculation for a ACEC, that calculation is considered the baseline of past and present disturbance and is valid for 12 months, and can be used by other proposed activities in the same unit. Ground disturbances, that meet the criteria below, would be added into the calculation for the 12 month period without having to revisit the entire calculation. After a 12 month period has passed and a proposed action triggers the disturbance calculation, BLM will examine the existing ground disturbance calculation to determine: 1) if the calculation is still reliable, in which case add in any additional disturbance that has occurred since that calculation; or 2) if the disturbance must be recalculated in its entirety. Once completed for a specific activity, the ground disturbance calculation may be used throughout the activity's environmental analysis. However, the BLM may recalculate the affected unit(s) or portions of the unit(s) if it determines such recalculation is necessary for the BLM's environmental analysis.</p> <p>Unit of measurement: When calculating the ground disturbance, it is necessary to identify the appropriate unit level at which the disturbance will be calculated. For ground disturbing activities that occur within California Desert National Conservation Lands, the disturbance calculation will be based on the California Desert National Conservation Lands, ACEC unit boundary, or the boundary of the disturbance cap area(s), whichever area is smaller. If there is overlap between California Desert National Conservation Lands and an ACEC, the calculation will take place based on the smallest unit. If an activity/project overlaps two or more smaller units, the cap will be calculated, individually, for all affected units.</p> <p>Ground disturbance includes: The calculation shall include existing ground disturbance in addition to the estimated ground disturbance from the proposed activity (future) determined at the time of the individual proposal:</p> <ul style="list-style-type: none"> • Authorized/approved ground disturbing activities – built and not yet built • BLM identified routes – all routes, trails, etc., authorized and unauthorized, identified in the Ground Transportation Linear Feature (GTLF) and/or other BLM route network database (i.e., BLM local databases that contain the best available data on routes and trails, replacement for GTLF, etc.), following applicable BLM standards and policy for identification of routes (authorized and unauthorized) • Assumptions may be used to identify the percentage/degree/area/etc. of ground disturbance for a specific authorized/approved activity or activity-type based on: <ul style="list-style-type: none"> ○ Activity-specific environmental analysis, such as NEPA or ESA Section 7 Biological Assessment ○ Known and documented patterns of ground disturbance ○ Other documented site-specific factors that limit or play a role in ground disturbance, such as topography, geography, hydrology (e.g. desert washes obliterating authorized routes on a regular basis), historical and predicted patterns of use • Any unauthorized disturbance that can be seen at a 1:10,000 scale using the best available aerial imagery • Ground disturbance from wildfire, animals, or other disturbances that can be seen at a 1:10,000 scale using the best available aerial imagery • Historic Route 66 maintenance - potential ground disturbance estimates: <ul style="list-style-type: none"> – As part of the ground disturbance calculation, the potential disturbance associated with estimated operations related to the maintenance of Historic Route 66 will automatically be included in the ground disturbance calculation as existing ground disturbance for the units specified below, until which time these estimated acres are no longer necessary due to approved operations: 			

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		<ul style="list-style-type: none"> ▪ South Amboy-Mojave California Desert National Conservation Lands ▪ Bristol Mountains ACEC 92 acres ▪ Chemehuevi ACEC 43 acres ▪ Pisgah ACEC 86 acres <ul style="list-style-type: none"> ○ The estimated ground disturbance acreage includes disturbance associated with potential access to the locations if no current access exists. ○ The estimated ground disturbance acres for maintenance of Historic Route 66 in the before mentioned conservation units is not approval of these activities by BLM. Activities associated with the management and maintenance of Historic Route 66 on BLM administered land will follow all applicable laws, regulations and policies. <p>Exceptions to the disturbance calculation:</p> <ul style="list-style-type: none"> • Actions necessary to control the immediate impacts of an emergency that are urgently needed to reduce the risk to life, property, or important natural, cultural, or historic resources, in accordance with 43 CFR 46.150, will not be required to conduct a disturbance calculation. If the actions are ground disturbing, that disturbance will count towards the disturbance cap when next calculated for non-emergency activities. • Actions that are authorized under a Department of Interior (DOI) or BLM NEPA Categorical Exclusion will not be required to conduct a disturbance calculation; however, these actions are not exempt from the disturbance mitigation requirement if a unit is at or above its cap. Although the BLM is not required to calculate the disturbance cap before approving an activity under a Categorical Exclusion, if the BLM knows an area is at or exceeding the cap, the disturbance mitigation requirements would apply to that activity. • BLM authorized/approved research or restoration activities that are designed or intended to promote and enhance the nationally significant landscape values for which the California Desert National Conservation Land was designated. • Actions that are entirely within the footprint of an existing authorized/approved site of ground disturbance that is within the calculation above. • Livestock grazing permit renewals (however, water developments or other range improvements requiring an Environmental Assessment or Environmental Impact Statement would be subject to the disturbance calculation and any mitigation requirements). <p>Ground disturbance mitigation: The purpose of ground disturbance mitigation (disturbance mitigation) is to allow actions to occur in California Desert National Conservation Lands and/or ACEC that is at or above its designated disturbance cap(s), while at the same time providing a restoration mechanism that will, over time, improve the condition of the unit(s) and take them below their cap. Disturbance mitigation is compensatory. Disturbance mitigation is unique to ground disturbance cap implementation and a discrete form of compensatory mitigation, separate from other required mitigation in the DRECP (see Glossary of Terms).</p> <p>Disturbance mitigation may only be used for ground disturbance that is otherwise allowed by the LUPA and consistent with the purposes for which the California Desert National Conservation Lands and/or ACEC was designated. Areas used for disturbance mitigation are still considered disturbed until which time they meet the "Ground Disturbance Recovery" criteria in the description below.</p>			

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		<p>Unit for implementing disturbance mitigation: The appropriate unit level for implementing disturbance mitigation is the same as that used for calculating ground disturbance. For ground disturbing activities that occur within California Desert National Conservation Lands, the disturbance mitigation will be required within the California Desert National Conservation Lands, ACEC boundary, or the boundary of the disturbance cap area(s), whichever area is smaller. If there is overlap between California Desert National Conservation Lands and an ACEC, the disturbance mitigation will take place in the smallest unit. If an activity/project overlaps two or more smaller units, disturbance mitigation will be required for all units that are at or over their specified disturbance cap.</p> <p>No disturbance mitigation required: If the calculated ground disturbance for the unit(s) is under the cap:</p> <ul style="list-style-type: none"> • No disturbance mitigation required; use activity design features to minimize new ground disturbance and help stay below cap. <p>Disturbance mitigation required: If the calculated ground disturbance is at or above the unit(s) cap, disturbance mitigation is required:</p> <ul style="list-style-type: none"> • Use activity design features to minimize new ground disturbance to the extent practicable. • For the portion of the proposed activity that is located on land within an area previously disturbed by an authorized/approved action that has been terminated the required disturbance mitigation ratio is 1.5 (1½):1. • For the portion of the proposed activity that is located on undisturbed land or land disturbed by unauthorized activities, the required disturbance mitigation ratio is 3:1. • Although the BLM is not required to calculate the ground disturbance cap before approving/authorizing an activity under a Categorical Exclusion, if the BLM knows an area is at or exceeding the cap, the disturbance mitigation requirements would apply to that activity. • In the rare circumstance where the BLM authorizes activities on areas restored (e.g., as disturbance or other forms of mitigation), the required disturbance mitigation ratio requirement is doubled, that is, 3:1 or 6:1, respectively. • If disturbance mitigation opportunities do not exist in a unit, ground-disturbing activities (see exceptions below) will not be allowed in that unit until which time opportunities for disturbance mitigation in the unit become available (see types and forms of disturbance mitigation below) or the unit recovers and drops below the cap. <p>Exceptions to the disturbance mitigation requirement:</p> <ul style="list-style-type: none"> • Any portion of the proposed activity that is located on land previously disturbed by an existing, valid authorized/approved action. • Livestock grazing permit renewals (however, water developments or other range improvements requiring an Environmental Assessment or Environmental Impact Statement would be subject to the disturbance calculation and any mitigation requirements). • Land use authorization assignments and renewals with no change in use. • BLM authorized/approved activities that are designed and implemented to reduce existing ground disturbance, such as ecological, cultural, or habitat restoration or enhancement activities. • Non-discretionary actions, where BLM has no authority to require compensatory mitigation. <p>Types and forms of disturbance mitigation:</p> <ul style="list-style-type: none"> • Restoration of previously disturbed BLM lands within the boundary of the specific California Desert National Conservation Lands and/or ACEC unit(s) being impacted. • Acquisition of undisturbed lands within the boundary of the specific California Desert National Conservation Lands and/or ACEC unit being impacted. 			

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		<ul style="list-style-type: none"> Ground disturbance mitigation can be “nested” (i.e., combined) with other resource mitigation requirements, when appropriate. For example, a parcel restored for desert tortoise habitat mitigation may also satisfy the disturbance mitigation requirement if the parcel is within the appropriate unit of California Desert National Conservation Lands, ACEC boundary, or smaller disturbance cap unit. <p>Ground Disturbance Recovery In general, California Desert National Conservation Lands and/or ACEC ground disturbance recovery would be determined during the decadal ground disturbance threshold ecoregion trend monitoring assessments (see below, and Monitoring and Adaptive Management). California Desert National Conservation Lands and/or ACEC recovery may be assessed at intermediate intervals, in between the decadal assessments, at BLM’s discretion based on adequate funding and staffing. Between the decadal assessments, BLM will assume disturbed areas and units (same as used for calculations and mitigation) are not yet recovered until data is presented and BLM determines the area meets one of the two criteria below:</p> <ul style="list-style-type: none"> Field verification that disturbed area(s) are dominated by the establishment of native shrubs, as appropriate for the site, and demonstrated function of ecological processes (e.g., water flow, soil stability). Ground disturbance can no longer be seen at the 1:10,000 scale using the best available aerial imagery. <p>Areas within California Desert National Conservation Lands and/or ACEC(s) may be determined recovered by BLM at any time, once one of the two criteria above are met, prior to the entire unit (of calculation and mitigation) being determined recovered. Areas determined recovered by BLM would be removed from the subsequent ground disturbance calculation for that unit.</p>			
Lands & Realty	NLCS-LANDS-1	Renewable energy activities and related ancillary facilities are not allowed. New transmission and interconnect (i.e. generation tie lines) lines are allowed in designated corridors only. California Desert National Conservation Lands are a right-of-way avoidance areas for all other land use authorizations. Right-of-way avoidance areas are defined as areas to be avoided but may be available for location of right-of-ways with special stipulations.	No	Land use does not occur on project site.	The Project does not propose energy activities.
	NLCS-LANDS-2	Avoid use authorizations that negatively affect the values for which the California Desert National Conservation Lands are designated, unless mitigation, including compensatory mitigation, result in a net benefit to the California Desert National Conservation Lands.	No	Land use does not occur on project site.	With the PDFs from the Plan of Operations (SMP 2021) and the implementation of BLM-required mitigation measures, the Project would not negatively affect California Desert NCLs.
	NLCS-LANDS-3	Public access will be designed to facilitate or enhance the use, enjoyment, conservation, protection, and restoration of California Desert National Conservation Land values identified for the ecoregion.	No	Land use does not occur on project site.	The Project would temporarily restrict access to the Project Area for public use; however, the BLM-required mitigation for public notices (Appendix F) to be posted would inform the public of access restrictions, and restrictions would be lifted upon completion of the Project.
	NLCS-LANDS-4	All lands within California Desert National Conservation Lands are identified for retention. If the BLM determines that disposal through exchange would result in a net benefit to the values of the California Desert National Conservation Lands, it may consider that exchange through a land use plan amendment.	No	Land use does not occur on project site.	Disposal through exchange would not occur and a land use plan amendment would not be necessary as a result of the Project.
	NLCS-LANDS-5	Site authorizations that protect or enhance conservation values, such as those granted as compensatory mitigation or for habitat restoration, are allowed. Compensatory mitigation measures sited on California Desert National Conservation Lands are not be limited to mitigation for activities on BLM-managed public land.	No	Project not located on federal lands with this designation.	The Project would not be located at a site that is designated for habitat restoration or compensatory mitigation.
Minerals	NLCS-MIN-1	<p>High Potential Mineral Areas</p> <ul style="list-style-type: none"> In California Desert National Conservation Lands and ACECs, determine if reasonable alternatives exist outside of the California Desert National Conservation Lands and ACECs prior to proposing mineral resource development within one of these areas. In California Desert National Conservation Lands, subject to valid existing rights, if mineral resource development is proposed on a parcel of public land administered by the BLM for conservation purposes and designated as part of the NLCS within the CDCA, pursuant to Omnibus Public Land Management Act Section 2002(b)(2)(D): 	No	Project not located on federal lands with this designation.	The Project is not located within a High Potential Mineral Area.

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		<ul style="list-style-type: none"> o Identify, analyze, and consider the resources and values for which that parcel of public land is administered for conservation purposes. o Determine whether development of mineral resources is compatible with the BLM's administration of that parcel of public land for conservation purposes. If development is incompatible, the mineral resource would not be developed, subject to valid existing rights. o Approve any operation for which valid existing rights have been determined, subject to the applicable CMAs in the DRECP LUPA, including LUPA-MIN-1 through 6. • In California Desert National Conservation Lands, to protect the values for which a California Desert National Conservation Land unit was designated, and avoid, minimize, and compensate impacts to those values that results in net benefit for California Desert National Conservation Lands values, all Plans of Operation will meet the performance standards found at 43 CFR 3809.420, specifically 43 CFR 3809.420(a)(3)—Land-use plans, and 43 CFR 3809.420(b)(7)—Fisheries, wildlife and plant habitat, and will be subject to the regulations found at 43 CFR 3809.100 and 43 CFR 3809.101, if applicable. 			
	NLCS-MIN-2	For the purposes of locatable minerals, California Desert National Conservation Lands are treated as "controlled" or "limited" use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.	Yes		The Project is being considered based on the regulations set forth in 43 CFR 3809.11. A Plan of Operations (SMP 2021) has been submitted to the BLM for mineral exploration.
	NLCS-MIN-3	California Desert National Conservation Lands are available for mineral material sales and solid mineral leases, and would require mitigation, including compensatory mitigation, that results in net benefit for California Desert National Conservation Lands values consistent with applicable statutes and regulations.	No	Land use does not occur on project site.	The Project does not propose mineral material sales or new solid mineral leases.
	NLCS-MIN-4	California Desert National Conservation Lands are available for geothermal leasing only in the specified areas where a DRECP LUPA DFA overlaps with the California Desert National Conservation Lands and the geothermal lease contains a specific no surface occupancy stipulation.	No	Land use does not occur on project site.	The Project does not propose geothermal activities.
	NLCS-MIN-5	Geothermal and other leasing must protect groundwater quality and quantity.	No	Land use does not occur on project site.	The Project does not propose geothermal activities.
National Scenic & Historic Trails	NLCS-NSHT-1	Management of National Scenic and Historic Trails – Manage National Scenic and Historic Trails as units of the BLM's NLCS per PL 111-11, and components of the National Trails System under the National Trails System Act. Where National Scenic and Historic Trails overlap California Desert National Conservation Lands or other NLCS units (e.g., Wilderness Areas), the more protective CMAs or land use allocations apply.	No	Project not located on federal lands with this designation.	No National Scenic or Historic Trails are present within the Project Area or vicinity.
	NLCS-NSHT-2	Management Corridor – The National Trail Management Corridor, on BLM land, has a width generally 1 mile from the centerline of the trail, 2-mile total width. Where the National Trail Management Corridors overlap California Desert National Conservation Lands or other NLCS units, the more protective CMAs or land use allocations will apply.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-3	Site Authorization – NSHT Management Corridors are right-of-way avoidance areas for land use authorizations. Sites authorizations will require mitigation, including compensatory mitigation resulting in net benefit to the NSHT. Authorizations that interfere with the Nature and Purpose for which the NSHT was established are not be allowed, as required by the National Trail Systems Act.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-4	Linear Rights-of-Way – Generally, the NSHT Management Corridors are avoidance areas for linear rights-of-way, except in existing designated transmission/utility corridors, which are available for linear rights-of-way. Cultural landscapes, high potential historic sites, and high potential route segments within or along National Historic Trail Management Corridors are excluded from transmission activities, except in existing designated transmission/utility corridors. For all linear rights-of-way adversely impacting NSHT Management Corridors, the BLM will follow the protocol in BLM Manual 6280 to coordinate, as required, and complete an analysis showing that the development does not substantially interfere with the nature and purposes of the NSHT, and that mitigation results in a net benefit to the NSHT.	No	Land use does not occur on project site.	The Project does not propose any Rights-of-Way.

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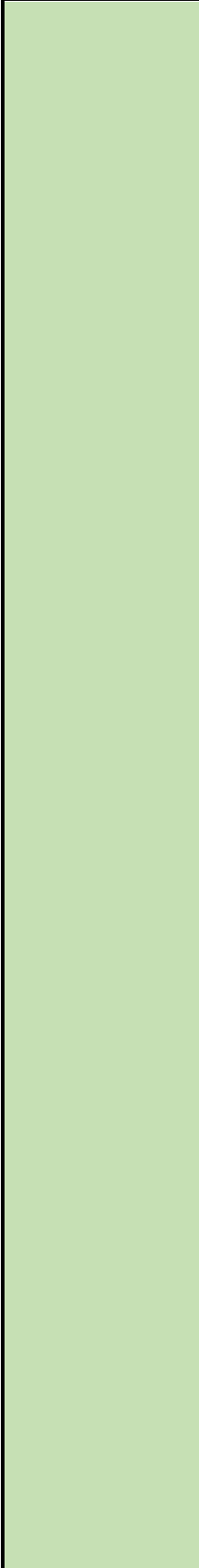
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
	NLCS-NSHT-5	Renewable Energy Rights-of-Way – Renewable energy activities are not be allowed within NSHT Management Corridors, except in LUPA approved DFAs. Where development may adversely impact NSHT Management Corridors, the BLM will follow the protocol in BLM Manual 6280 as required and complete an analysis to ensure that it does not substantially interfere with the nature and purposes of the NSHT, avoids activities incompatible with NSHT nature and purposes, and that mitigation, including compensatory mitigation, results in a net benefit to the NSHT.	No	Land use does not occur on project site.	The Project does not entail geothermal activities.
	NLCS-NSHT-6	Land Tenure – All lands within NSHT Management Corridors are identified for retention. If the BLM determines that disposal through exchange would result in a net benefit to the values of the NSHT, it may consider that exchange through a land use plan amendment.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-7	Locatable Minerals – For the purposes of locatable minerals, NSHT Management Corridors are treated as “controlled” or “limited” use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-8	Mineral Material Sales – NSHT Management Corridors are available for mineral material sales if the sale does not conflict or cause adverse impact on resources, qualities, values, settings, or primary uses or substantially interfere with nature and purpose of NSHT, and avoids activities inconsistent with NSHT purposes. The sale must require mitigation/compensation and must result in net benefit to NSHT values.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-9	Solid Mineral Leases – NSHT Management Corridors will be available for solid mineral leases if the lease does not conflict or cause adverse impact on resources, qualities, values, settings, or primary uses or substantially interfere with nature and purpose of NSHT, and avoids activities inconsistent with NSHT purposes. The lease must require mitigation/compensation and result in net benefit to NSHT values.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity.
	NLCS-NSHT-10	Geothermal Leasable Minerals – NSHT Management Corridors are available for geothermal leasing in LUPA approved DFAs only and with a no surface occupancy stipulation, as long as the action would not substantially interfere with the nature and purposes of the NSHT, and will follow the most recent national policy and guidance.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity and the Project does not propose geothermal activities.
	NLCS-NSHT-11	Recreation and Visitor Services – Commercial and competitive Special Recreation is a discretionary action and will be considered on a case-by-case basis for activities consistent with the NSHT nature and purposes.	No	Project not located on federal lands with this designation.	No National Scenic or Historic Trails are present within the Project Area or vicinity.
	NLCS-NSHT-12	Cultural Resources – Any adverse effects to historic properties resulting from allowable uses will be addressed through the Section 106 process of the National Historic Preservation Act and the implementing regulations at 36 CFR Part 800.	Yes		At this time, no National Scenic or Historic Trails have been identified within the Project Area of cultural resources area of analysis. Throughout archaeological monitoring of the Project per the mitigation measures included in Appendix F, should a National Scenic or Historic Trail be documented, the same mitigation measures for avoidance would be implemented. The Section 106 of the NHPA consultation process would be ongoing throughout the life of the Project.
	NLCS-NSHT-13	Cultural Resources – All high potential NHT segments will be assumed to contain remnants, artifacts and other properties eligible for the National Register of Historic Places, pending evaluation.	No	Project not located on federal lands with this designation.	No high potential National Historic Trail segments have been identified within the Project Area or vicinity.
	NLCS-NSHT-14	Visual Resources Management – All NSHT Management Corridors are designated as VRM Class I or II dependent on the CMA's or land use allocation, except within existing approved transmission/utility corridors (VRM Class III) and DFAs (VRM Class IV). However, state of the art VRM BMPs for renewable energy will be employed commensurate with the protection of nationally significant scenic resources and cultural landscapes to minimize the level of intrusion and protect trail settings.	No	Project not located on federal lands with this designation.	There is no National Scenic or Historic Trail Management Corridor within the Project Area or vicinity and the Project does not propose renewable energy activities.

California Desert NCL

Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
	NLCS-NSHT-15	Mitigation Requirements – If there is overlap between a National Scenic or Historic Trail, National Trail Management Corridor on BLM land, or trail under study for possible designation and a DFA, BLM Manual 6280 must be followed. Efforts will be made to avoid conflicting activities and approved activities will be subject to mitigation for adverse impacts to the resources, qualities, values, settings, and primary use or uses (RQVs), including, but not limited to, the following: avoidance, the cost of trail relocation, on-site mitigation and off-site mitigation. Compensation can include acquisition or restoration of corridor RQVs, features and landscapes will be at a minimum of 2:1, and must result in a net benefit to the overall trail corridor. Proposed development of high potential route segments must not substantially interfere with the nature and purposes of the National Scenic or Historic Trail.	No	Project not located on federal lands with this designation.	The Project is not located within a Development Focus Area and there are no National Scenic or Historic Trails or National Trail Management Corridors present within the Project Area and vicinity.
Recreation & Visitor Services	NLCS-REC-1	Commercial and competitive Special Recreation Permits are a discretionary action and will be issued on a case by case basis, for activities that do not diminish the values of the California Desert National Conservation Lands unit and will be prohibited if the proposed activities would adversely impact the nationally significant ecological, cultural or scientific values for which the area was designated.	No	Land use does not occur on project site.	The Project would not require a Special Recreation Permit.
	NLCS-SW-1	Apply for water rights on a case by case basis to protect water dependent California Desert National Conservation Land values.	No	Land use does not occur on project site.	The Project would not require water rights applications.

ACECs						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable		Comments
Cultural Resources & Tribal Interests	ACEC-CUL-1	Survey, identify and record new cultural resources within ACEC boundaries prioritizing ACECs where the relevant and important criteria include cultural resources.	No			This CMA specifies actions the BLM will take regarding overall management of ACECs.
	ACEC-CUL-2	Update records for existing cultural resources within ACECs, prioritizing ACECs where the relevant and important criteria include cultural resources.	No			This CMA specifies actions the BLM will take regarding overall management of ACECs.
	ACEC-CUL-3	Develop baseline assessment of specific natural and man-made threats to cultural resources in ACECs (i.e., erosion, looting and vandalism, grazing, OHV), prioritizing ACECs where the relevant and important criteria include cultural resources.	No			This CMA specifies actions the BLM will take regarding overall management of ACECs.
	ACEC-CUL-4	Provide on-going monitoring for cultural resources based on the threat assessment, prioritizing ACECs where the relevant and important criteria include cultural resources.	No			This CMA specifies actions the BLM will take regarding overall management of ACECs.
	ACEC-CUL-5	Identify, develop or incorporate standard protection measures and best management practices to address threats.	No			This CMA specifies actions the BLM will take regarding overall management of ACECs.
	ACEC-CUL-6	Where specific threats are identified, implement protection measures consistent with agency NHPA Section 106 responsibilities.	Yes			SMP has developed and implemented a tribal monitoring plan regarding the Project. Tribal consultation would be ongoing through the life of the Project and associated additional mitigation measures would be required by the BLM to ensure impacts to cultural resources are minimized. Required mitigation is provided in Chapter 5 of the EA as determined appropriate by the BLM and in accordance with the relevant regulations.
Ground Disturbance Cap	ACEC-DIST-1	Development in ACECs is limited by specified ground disturbance caps which are the total ground disturbance (existing [past and present] plus future). The specific ACEC ground disturbance caps are delineated in each of the individual ACEC Special Unit Management Plans (Appendix B). The ground disturbance caps will be used, managed and implemented following the methodology for California Desert National Conservation Lands and ACECs identified in Section II.2 and repeated in CMAs NLCS-DIST-2 , and ACEC-DIST-2 .	No	Land use does not occur on project site.		Ground disturbance caps do not apply to mining or mineral exploration projects.
	ACEC-DIST-2	Specifically, the ground disturbance caps would be implemented as a limitation and objective using the following process: <ul style="list-style-type: none"> • Limitation: If the ground disturbance condition of the ACEC is below the designated ground disturbance cap (see calculation method), the ground disturbance cap is a limitation on ground-disturbing activities within the California Desert National Conservation Lands and/or ACEC, and precludes approval of future discretionary ground disturbing activities (see exceptions below) above the cap. • Objective, triggering disturbance mitigation: If the ground disturbance condition of the ACEC is at or above its designated cap, the cap functions as an objective, triggering the specific ground disturbance mitigation requirement. Ground disturbance mitigation is unique to ground disturbance cap implementation and a discrete form of compensatory mitigation, separate from other required mitigation in the DRECP LUPA (see Glossary of Terms). The ground disturbance mitigation requirement remains in effect for all (see exceptions below) activities until which time the ACEC drops below the cap, at which time the cap becomes a limitation and the ground disturbance mitigation is no longer a requirement. If ground disturbance mitigation opportunities do not exist in a unit (see below for "unit" of measurement), ground disturbing activities (see exceptions below) will not be allowed in that unit until which time opportunities for ground disturbance mitigation in the unit become available (see types and forms of ground disturbance mitigation below) or the unit recovers and drops below the cap. • Actions necessary to control the immediate impacts of an emergency that are urgently needed to reduce the risk to life, property, or important natural, cultural, or historic resources, in accordance with 43 Code of Federal Regulations (CFR) 46.150, are an exception to the ground disturbance cap limitation, objective and ground disturbance mitigation requirements. Ground disturbance from emergency actions will count in the ground disturbance calculation for other activities, and also be available for ground disturbance mitigation opportunities and restoration, as appropriate. 	No	Land use does not occur on project site.	Ground disturbance caps do not apply to mining or mineral exploration projects.	

ACECs	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
		<p>Calculating ground disturbance: Ground disturbance will be calculated on BLM managed land at the time of an individual proposal, by BLM for a BLM initiated action or by a third party for an activity needing BLM approval or authorization, for analysis in the activity-specific National Environmental Policy Act (NEPA) document. Once BLM approves/accepts or conducts a calculation for a ACEC, that calculation is considered the baseline of past and present disturbance and is valid for 12 months, and can be used by other proposed activities in the same unit. Ground disturbances, that meet the criteria below, would be added into the calculation for the 12 month period without having to revisit the entire calculation After a 12 month period has passed and a proposed action triggers the disturbance calculation, BLM will examine the existing ground disturbance calculation to determine: 1) if the calculation is still reliable, in which case add in any additional disturbance that has occurred since that calculation; or 2) if the disturbance must be recalculated in its entirety. Once completed for a specific activity, the ground disturbance calculation may be used throughout the activity's environmental analysis. However, the BLM may recalculate the affected unit(s) or portions of the unit(s) if it determines such recalculation is necessary for the BLM's environmental analysis.</p> <p>Unit of measurement: When calculating the ground disturbance, it is necessary to identify the appropriate unit level at which the disturbance will be calculated. For ground disturbing activities that occur within an ACEC, the disturbance calculation will be based on the ACEC unit boundary, or the boundary of the disturbance cap area(s), whichever area is smaller. If there is overlap between California Desert National Conservation Lands and an ACEC, the calculation will take place based on the smallest unit. If an activity/project overlaps two or more smaller units, the cap will be calculated, individually, for all affected units.</p> <p>Ground disturbance includes: The calculation shall include existing ground disturbance in addition to the estimated ground disturbance from the proposed activity (future) determined at the time of the individual proposal:</p> <ul style="list-style-type: none"> • Authorized/approved ground disturbing activities – built and not yet built • BLM identified routes – all routes, trails, etc., authorized and unauthorized, identified in the Ground Transportation Linear Feature (GTLF) and/or other BLM route network database (i.e., BLM local databases that contain the best available data on routes and trails, replacement for GTLF, etc.), following applicable BLM standards and policy for identification of routes (authorized and unauthorized) • Assumptions may be used to identify the percentage/degree/area/etc. of ground disturbance for a specific authorized/approved activity or activity-type based on: <ul style="list-style-type: none"> ○ Activity-specific environmental analysis, such as NEPA or ESA Section 7 Biological Assessment ○ Known and documented patterns of ground disturbance ○ Other documented site-specific factors that limit or play a role in ground disturbance, such as topography, geography, hydrology (e.g. desert washes obliterating authorized routes on a regular basis), historical and predicted patterns of use • Any unauthorized disturbance that can be seen at a 1:10,000 scale using the best available aerial imagery • Ground disturbance from wildfire, animals, or other disturbances that can be seen at a 1:10,000 scale using the best available aerial imagery • Historic Route 66 maintenance - potential ground disturbance estimates: <ul style="list-style-type: none"> – As part of the ground disturbance calculation, the potential disturbance associated with estimated operations related to the maintenance of Historic Route 66 will automatically be included in the ground disturbance calculation as existing ground disturbance for the units specified below, until which time these estimated acres are no longer necessary due to approved operations: <ul style="list-style-type: none"> ▪ South Amboy-Mojave California Desert National Conservation Lands 221 acres ▪ Bristol Mountains ACEC 92 acres ▪ Chemehuevi ACEC 43 acres ▪ Pisgah ACEC 86 acres ○ The estimated ground disturbance acreage includes disturbance associated with potential access to the locations if no current access exists. ○ The estimated ground disturbance acres for maintenance of Historic Route 66 in the before mentioned conservation units is not approval of these activities by BLM. Activities associated with the management and maintenance of Historic Route 66 on BLM administered land will follow all applicable laws, regulations and policies. <p>Exceptions to the disturbance calculation:</p> <ul style="list-style-type: none"> • Actions necessary to control the immediate impacts of an emergency that are urgently needed to reduce the risk to life, property, or important natural, cultural, or historic resources, in accordance with 43 CFR 46.150, will not be required to conduct a disturbance calculation. If the actions are ground disturbing, that disturbance will count towards the disturbance cap when next calculated for non-emergency activities. • Actions that are authorized under a Department of Interior (DOI) or BLM NEPA Categorical Exclusion will not be required to conduct a disturbance calculation; however, these actions are not exempt from the disturbance mitigation requirement if a unit is at or above its cap. Although the BLM is not required to calculate the disturbance cap before approving an activity under a Categorical Exclusion, if the BLM knows an area is at or exceeding the cap, the disturbance mitigation requirements would apply to that activity. 			

ACECs	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments
		<ul style="list-style-type: none"> • BLM authorized/approved research or restoration activities that are designed or intended to promote and enhance the relevant and important values for which the ACEC was designated. • Actions that are entirely within the footprint of an existing authorized/approved site of ground disturbance that is within the calculation above. • Livestock grazing permit renewals (however, water developments or other range improvements requiring an Environmental Assessment or Environmental Impact Statement would be subject to the disturbance calculation and any mitigation requirements). <p>Ground disturbance mitigation: The purpose of ground disturbance mitigation (disturbance mitigation) is to allow actions to occur in California Desert National Conservation Lands and/or ACEC that is at or above its designated disturbance cap(s), while at the same time providing a restoration mechanism that will, over time, improve the condition of the unit(s) and take them below their cap. Disturbance mitigation is compensatory. Disturbance mitigation is unique to ground disturbance cap implementation and a discrete form of compensatory mitigation, separate from other required mitigation in the DRECP (see Glossary of Terms).</p> <p>Disturbance mitigation may only be used for ground disturbance that is otherwise allowed by the LUPA and consistent with the purposes for which the California Desert National Conservation Lands and/or ACEC was designated. Areas used for disturbance mitigation are still considered disturbed until which time they meet the "Ground Disturbance Recovery" criteria in the description below.</p> <p>Unit for implementing disturbance mitigation: The appropriate unit level for implementing disturbance mitigation is the same as that used for calculating ground disturbance. For ground disturbing activities that occur within an ACEC, the disturbance mitigation will be required within the ACEC unit boundary, or the boundary of the disturbance cap area(s), whichever area is smaller. If there is overlap between California Desert National Conservation Lands and an ACEC, the disturbance mitigation will take place in the smallest unit. If an activity/project overlaps two or more smaller units, disturbance mitigation will be required for all units that are at or over their specified disturbance cap.</p> <p>No disturbance mitigation required: If the calculated ground disturbance for the unit(s) is under the cap:</p> <ul style="list-style-type: none"> • No disturbance mitigation required; use activity design features to minimize new ground disturbance and help stay below cap. <p>Disturbance mitigation required: If the calculated ground disturbance is at or above the unit(s) cap, disturbance mitigation is required:</p> <ul style="list-style-type: none"> • Use activity design features to minimize new ground disturbance to the extent practicable. • For the portion of the proposed activity that is located on land within an area previously disturbed by an authorized/approved action that has been terminated the required disturbance mitigation ratio is 1.5 (1½):1. • For the portion of the proposed activity that is located on undisturbed land or land disturbed by unauthorized activities, the required disturbance mitigation ratio is 3:1. • Although the BLM is not required to calculate the ground disturbance cap before approving/authorizing an activity under a Categorical Exclusion, if the BLM knows an area is at or exceeding the cap, the disturbance mitigation requirements would apply to that activity. • In the rare circumstance where the BLM authorizes activities on areas restored (e.g., as disturbance or other forms of mitigation), the required disturbance mitigation ratio requirement is doubled, that is, 3:1 or 6:1, respectively. <ul style="list-style-type: none"> • If disturbance mitigation opportunities do not exist in a unit, ground-disturbing activities (see exceptions below) will not be allowed in that unit until which time opportunities for disturbance mitigation in the unit become available (see types and forms of disturbance mitigation below) or the unit recovers and drops below the cap. <p>Exceptions to the disturbance mitigation requirement:</p> <ul style="list-style-type: none"> • Any portion of the proposed activity that is located on land previously disturbed by an existing, valid authorized/approved action. • Livestock grazing permit renewals (however, water developments or other range improvements requiring an Environmental Assessment or Environmental would be subject to the disturbance calculation and any mitigation requirements). <ul style="list-style-type: none"> • Land use authorization assignments and renewals with no change in use. • BLM authorized/approved activities that are designed and implemented to reduce existing ground disturbance, such as ecological, cultural, or habitat restoration or enhancement activities. • Non-discretionary actions, where BLM has no authority to require compensatory mitigation. <p>Types and forms of disturbance mitigation:</p> <ul style="list-style-type: none"> • Restoration of previously disturbed BLM lands within the boundary of the specific ACEC unit(s) being impacted. <ul style="list-style-type: none"> • Acquisition of undisturbed lands within the boundary of the specific ACEC unit being impacted. • Ground disturbance mitigation can be "nested" (i.e., combined) with other resource mitigation requirements, when appropriate. For example, a parcel restored for desert tortoise habitat mitigation may also satisfy the disturbance mitigation requirement if the parcel is within the appropriate unit of California Desert National Conservation Lands, ACEC boundary, or smaller disturbance cap unit. 			

ACECs						
Category	CMA #	CMA Text	Applicability	Explanation: Why CMA is not applicable	Comments	
		<p>Ground Disturbance Recovery</p> <p>In general, California Desert National Conservation Lands and/or ACEC ground disturbance recovery would be determined during the decadal ground disturbance threshold ecoregion trend monitoring assessments (see below, and Monitoring and Adaptive Management). California Desert National Conservation Lands and/or ACEC recovery may be assessed at intermediate intervals, in between the decadal assessments, at BLM's discretion based on adequate funding and staffing. Between the decadal assessments, BLM will assume disturbed areas and units (same as used for calculations and mitigation) are not yet recovered until data is presented and BLM determines the area meets one of the two criteria below:</p> <ul style="list-style-type: none"> • Field verification that disturbed area(s) are dominated by the establishment of native shrubs, as appropriate for the site, and demonstrated function of ecological processes (e.g., water flow, soil stability). • Ground disturbance can no longer be seen at the 1:10,000 scale using the best available aerial imagery. <p>Areas within California Desert National Conservation Lands and/or ACEC(s) may be determined recovered by BLM at any time, once one of the two criteria above are met, prior to the entire unit (of calculation and mitigation) being determined recovered. Areas determined recovered by BLM would be removed from the subsequent ground disturbance calculation for that unit.</p>				
Lands & Realty	ACEC-LANDS-1	Renewable energy activities are not allowed. ACECs are right-of-way avoidance areas for all other land use authorizations, except when identified as right-of-way exclusion areas in the individual unit's Special Management Plan (Appendix B). Transmission is allowed. Re-powering of an existing wind facility is allowed if the re-power project remains within the existing approved wind energy ROW and reduces environmental impacts.	No	Land use does not occur on project site.	The Project does not propose renewable energy activities or new land use authorizations.	
	ACEC-LANDS-2	All lands within Areas of Critical Environmental Concern are identified for retention. If the BLM determines that disposal through exchange would result in a net benefit to the values of the ACEC, it may consider that exchange through a land use plan amendment.	No	Land use does not occur on project site.	CMA not relevant to the Project; a land use plan amendment is not necessary.	
Minerals	ACEC-MIN-1	<p>High Potential Mineral Areas</p> <ul style="list-style-type: none"> • In California Desert National Conservation Lands and ACECs, determine if reasonable alternatives exist outside of the California Desert National Conservation Lands/ACEC areas prior to proposing mineral resource development within one of these areas. 	No	Project is not located in or near the area specified in the CMA.	Project is not located within a High Potential Mineral Area.	
	ACEC-VRM-1	Manage Manzanar ACEC to conform to VRM Class II standards.	No	Project is not located in or near the area specified in the CMA.	Project is not located within the Manzanar ACEC.	

GLOSSARY OF TERMS

A

acquired lands. Lands in federal ownership that are not *public domain*¹ and that have been obtained by the government by purchase, exchange, donation, or condemnation. Acquired lands are normally dedicated to a specific use or uses.

acquisition. The activity of obtaining land and/or interest in land through purchase, exchange, donation, or condemnation.

activity. Authorized projects and management activities conducted on BLM-administered lands. Activities include actions approved by permit or other authorization as well as actions conducted by the BLM.

activity footprint. The area of long- and short-term ground disturbance associated with the pre-construction, construction, operation, implementation, maintenance, and decommissioning of an activity, including associated linear and non-linear components, such as staging areas, access routes and roads, gen-ties, pipelines, other utility lines, borrow pits, disposal areas, etc. May also be considered synonymous with project/activity site.

adaptive management. A process for assimilating new information, including, but not limited to, from monitoring and research, and assessing if adjustments to the DRECP BLM Land Use Plan Amendment (LUPA) Conservation and Management Actions (CMAs), etc., are needed. The Monitoring and Adaptive Management Program (MAMP) is the vehicle for structuring adaptive management in the LUPA and implementing actions deemed necessary, as needed.

Applicant. A public or private entity, or an individual, that applies to the BLM for a land use authorization or approval of activity.

Area of Critical Environmental Concern (ACEC). A BLM area within public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems of processes, or to protect life and safety from natural hazards. The ACECs are part of the LUPA conservation land allocations. Defined in Section 103(a) of the Federal

¹ **Public domain.** Vacant, unappropriated, and unreserved public lands, or public lands withdrawn by Executive Order 6910 of November 26, 1934, as amended, or Executive Order 6964 of February 5, 1935, as amended, and not otherwise withdrawn or reserved, or public lands within grazing districts established under Section 1 of the Act of June 28, 1934 (45 Stat. 1269), as amended, and not otherwise withdrawn or reserved.

Land Policy and Management Act (FLPMA) of 1976, as amended, and regulation 43 Code of Federal Regulations (CFR) 1601.0-5(a).

avoidance to the maximum extent practicable (as utilized in the LUPA CMAs). A standard identified in the LUPA CMAs and applied to implementation of activities. Under this standard, impacts to identified resources are not allowed unless there is no reasonable or practicable means of avoidance that is consistent with the basic objectives of the activity. Compensation for unavoidable impacts will be required, as specified in the CMAs. The term “maximum extent practicable” as used here in the DRECP LUPA is applicable only to its use in the CMAs; it does not apply to the term as it is used in the Endangered Species Act of 1973, as amended.

B

baseline monitoring. A type of monitoring in which a designated resource specialist that assembles an initial set of information or quantitative data, through an accepted protocol, for comparison or a control by which a determination can be made in the future as to whether change has occurred through events, actions, or time. Baseline monitoring may be appropriate in areas that have not been sufficiently surveyed or for which relevant data is otherwise lacking.

biological monitoring. Visual survey of an area conducted by a designated biologist to determine if a biological resource is present. Biological monitoring is commonly conducted on the sites of proposed projects. Biological monitoring conducted during the implementation of activities is used to implement LUPA CMAs that require construction setbacks or that require the designated biologist to move a biological resource out of harm’s way.

BLM land (also known as BLM-managed lands, BLM-administered land, or public land). Land or interest in land owned by the United States and administered by the U.S. Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership.

BLM LUPA conservation designations (also known as BLM conservation lands, BLM conservation areas, or conservation allocations). Administrative designations that include California Desert National Conservation Land, ACEC, and Wildlife Allocation designations on BLM-administered land. BLM Wilderness Areas, Wilderness Study Areas, National Monuments, National Historic Trails, and Wild and Scenic River designations (existing and proposed) are included as part of the existing Legislatively and Legally Protected Areas (LLPAs). The BLM LUPA conservation designations were identified through the planning process.

BLM Special-Status Species (also known as Special-Status Species). Includes those plant and animal species that are (1) species listed as threatened or endangered, or proposed for listing under the Endangered Species Act of 1973, and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the Endangered Species Act, which are designated as sensitive by the BLM California State Director. All federal Endangered Species Act candidate species, and delisted species in the 5 years following delisting, are considered and will be conserved as species sensitive. The BLM California State Director has also conferred sensitive status on California State endangered, threatened, and candidate species, and rare plant species, on species with a California Rare Plant Rank of 1B on the Special Vascular Plants, Bryophytes, and Lichens List maintained by the California Department of Fish and Wildlife that are on BLM lands or affected by BLM actions and that are not already special-status plants by virtue of being federally listed or proposed (unless specifically excluded by the BLM California State Director on a case-by-case basis), and on certain other plants the BLM California State Director believes meet the definition of sensitive. See BLM Manual 6840, Special Status Species Policy, for more detail.

breeding habitat. Vegetation types or landscapes that contain elements required for the reproduction of wildlife Focus or BLM Special Status Species; for example, tree or canopy structure, vegetation composition, soil type, or hydrologic requirements.

C

California Department of Fish and Wildlife (CDFW) fully protected species. Any species identified in California Fish and Game Code Sections 3511, 4700, 4800, 5050 or 5515. Such species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except under an approved Natural Community Conservation Plan (NCCP) or for collection for necessary scientific research.

California Desert Biological Conservation Framework Land Cover Map. A detailed map of vegetation types and other land covers for the DRECP Plan Area. The land cover map is a composite of fine-scale and medium-scale mapping organized hierarchically according to the National Vegetation Classification Standard, including general community groupings, vegetation types, and alliance-level mapping units.

California Desert Conservation Area (CDCA). As defined in Section 601 of the FLPMA, the CDCA is a 25-million-acre expanse of land in Southern California designated by Congress in 1976 through the FLPMA. About 10 million acres of the CDCA are administered by BLM under its CDCA Plan.

California Desert National Conservation Lands (CDNCL or NCL). The Approved LUPA identifies California Desert National Conservation Lands, in accordance with the Omnibus

Public Land Management Act of 2009 (Omnibus Act), which are nationally significant landscapes within the CDCA with outstanding cultural, ecological, and scientific values. The LUPA also establishes CMAs to conserve, protect, and restore these landscapes. The California Desert National Conservation Lands are a permanent addition to the National Landscape Conservation System, as per the direction to BLM in the Omnibus Act.

clearance survey. Survey for Focus and BLM Special Status Species conducted immediately prior to vegetation and/or ground disturbance from activities, as per the CMAs. Clearance surveys must be conducted throughout the LUPA Decision Area and in accordance with applicable species-specific CMAs and protocols, as approved by BLM and U.S. Fish and Wildlife Service (USFWS) and CDFW, if applicable, to detect and clear (i.e., remove, translocate) out of harm's way individuals of a species prior to disturbance.

compensation and compensatory mitigation. For the purposes of the DRECP LUPA, compensation and compensatory mitigation mean replacing or providing substitute resources or habitats by enhancing or restoring lands within appropriate BLM conservation and/or recreation designations, or acquiring and conserving lands from willing sellers.

conservation easement. A partial interest in land that can be transferred to a qualified land conservancy or government entity. The purpose is to conserve or protect the land. Conservation easements typically restrict allowable uses of the land by prohibiting development and sometimes restricting or requiring particular management activities. A conservation easement is legally binding for a specified term, which may be in perpetuity.

Conservation and Management Actions (CMAs). The specific set of avoidance, minimization, and compensation measures, and allowable and non-allowable actions for siting, design, pre-construction, construction, maintenance, implementation, operation, and decommissioning activities on BLM land. CMAs are required for 14 different resources and 7 land allocations.

conserve. The term "conserve" (or "conservation") as used in the DRECP LUPA applies to the protection and management of the multitude of resources and values BLM is managing with land allocations and CMAs in the DRECP LUPA, including but not limited to biological/ecological, cultural, recreation, and visual resources, including the conservation and recreation land allocations and their management, specific CMAs, and compensation actions such as restoration, enhancement, and land acquisition (e.g., fee title purchase from willing sellers). In the DRECP biological conservation strategy, this term is applied more narrowly to the protection and management of ecological processes, Focus and BLM Special Status Species, and vegetation types.

creosote bush rings. Rings of creosote bush (*Larrea tridentata*) that form over long periods of time. As a single creosote bush produces new branches at the periphery of its

crown, the branches in the center of the crown begin to die. Eventually a sterile area of bare ground occupies the center of the original shrub, and as the ring becomes larger the original shrub segments into several shrubs (satellites), forming a ring around the point where the original shrub originated. As more time goes by these rings become elliptical rather than circular. The satellite shrubs in a ring are the same genetically, attesting to the fact that they form a single clone originating from one original shrub. Vasek (1980) showed that some of these clones are several thousand years old. The largest known creosote ring is 20.5 feet in diameter and may be 11,700 years old.

Critical Habitat. Critical habitat is defined in Section 3(5)(A) of the Endangered Species Act of 1973 as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species, and which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Designated critical habitat is protected under Section 7(a)(2) of the Endangered Species Act, which requires federal agencies to ensure that any action they fund, authorize, or carry out is not likely to result in the destruction or adverse modification of critical habitat.

D

Desert Renewable Energy Conservation Plan (DRECP). An interagency planning effort of the REAT agencies addressing a biological conservation framework and renewable energy strategy for the California desert. The DRECP consists of the DRECP BLM LUPA (Phase I), and a Phase II addressing nonfederal lands.

designated biologist. A biologist who is approved as qualified by BLM, and USFWS and CDFW, as appropriate. A designated biologist is the person responsible for overseeing compliance with specific applicable LUPA biological CMAs.

Development Focus Areas (DFAs). Locations where renewable energy generation is an allowable use, incentivized, and could be streamlined for approval under the DRECP LUPA. The LUPA will only streamline and provide incentives for renewable energy activities sited in a DFA.

disposal. Conveyance of federal interest in public land to a nonfederal party through such actions as sale or exchange under various public land law authorities.

distributed generation. The 2011 Integrated Energy Policy Report published by the California Energy Commission (CEC) defines distributed generation as: "(1) fuels and

technologies accepted as renewable for purposes of the Renewable Portfolio Standard supplying power directly to a consumer” (CEC 2012).

DRECP Plan Area (as known as the interagency DRECP Plan Area or DRECP boundary). The Mojave and Colorado/Sonoran desert ecosystems in Southern California, with some map-based extractions primarily for the Coachella Valley Multiple Species Habitat Conservation Plan in Riverside County and the Tejon Ranch Tehachapi Uplands Multiple Species Habitat Conservation Plan in Kern County. This area does not include the lands in the LUPA Decision Area (see definition) in the CDCA but outside the DRECP boundary.

E

ecoregion subarea (also known as ecoregions or subareas). Planning and LUPA implementation units based on a consolidation of U.S. Department of Agriculture (USDA) ecoregion boundaries and U.S. Geological Survey Hydrologic Units. The DRECP LUPA contains 10 ecoregion subareas.

existing conservation areas. Areas where natural resources are substantially protected under existing federal or state law or other legal protections. Existing conservation areas are referred to on the maps and figures as Legislatively and Legally Protected Areas (LLPAs). These lands are assumed to be protected and managed for the benefit of Focus and BLM Special Status Species under existing management regimes.

existing transmission/utility corridors. Linear corridors on public lands designated through the West Wide Energy Corridor Programmatic Environmental Impact Statement, the CDCA Plan, or other Resource Management Plan as a preferred location for pipelines, transmission lines, and other linear infrastructure. Corridors are meant to minimize adverse impacts of these facilities and minimize the proliferation of rights-of-way across public lands.

Extensive Recreation Management Areas (ERMAs). BLM administrative units that require specific management consideration in order to address recreation use and demand. The ERMAs are managed to support and sustain the principal recreation activities and associated qualities and conditions. Recreation management actions within an ERMA are limited to only those of a custodial nature. Management of ERMA areas are commensurate with the management of other resources and resource uses.

F

federal lands. Land or interest in land owned and/or administered by the United States. Activities on federal lands in the LUPA Decision Area are administered by the Secretary of

the Interior through the BLM. Other federal lands administered by the Bureau of Reclamation, or BLM lands withdrawn by other agencies are not included in the definition of federal lands as used in the DRECP LUPA context.

Focus Species. Species whose conservation and management are provided for in the DRECP BLM LUPA.

foraging habitat. Vegetation types or landscapes that contain elements required for Focus and BLM Special Status wildlife species foraging; for example, particular vegetation consumed by Focus or BLM Special-Status wildlife species or habitat for species that are a primary source of Focus or BLM Special Status Species' diets.

G

General Public Lands (GPL). BLM-administered lands that do not have a specific land allocation or designation. These areas are available to renewable energy applications, but do not benefit from permit review streamlining or other incentives. Activities in these areas are required to follow the LUPA-wide CMAs, and the GPL specific CMAs. A land use plan amendment is needed to develop renewable energy and related activities in these areas.

geothermal project. Activities that involve the construction, operation, and maintenance of a facility that generates energy through steam from wells in geothermally active areas. Geothermal projects may include well sites, pipelines, towers, roads, pump or maintenance buildings, generators, transformers, and other supporting infrastructure. Geothermal activities on BLM land are authorized through the geothermal leasing program.

gigawatt (GW). Measure of energy equal to one billion watts. Used as a measure of instantaneous generation capacity.

gigawatt-hour (GWh). Measure of power equivalent to 10^9 watt hours. Used as a measure of energy production from generation facilities.

ground disturbance cap. Generally, a limitation on ground-disturbing activities in California Desert National Conservation Lands and ACECs. Expressed as a percentage of total BLM-managed California Desert National Conservation Lands and/or ACEC acreage, and cumulatively considers past, present, and future (proposed activity) ground disturbance. Baseline/existing (past plus present) ground disturbance would be determined using the most current imagery and knowledge at the time of an individual activity proposal. Specifically, the ground disturbance caps will be implemented as either a limitation or an objective triggering disturbance mitigation. The ground disturbance cap is a limitation on ground-disturbing activities within the California Desert National Conservation Lands and/or ACEC, and precludes approval of future ground-disturbing

activities if the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is below the designated ground disturbance cap. The ground disturbance cap functions as an objective, triggering a specific disturbance mitigation requirement if the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is at or above its designated cap. The disturbance mitigation requirement remains in effect until the unit drops below its specified cap, at which time the disturbance cap becomes a limitation. Refer to LUPA Section II.2.1, for the full implementation methodology. The methodology is repeated in Section II.2.2, and in CMAs NLCS-DIST-2 and ACEC-DIST-2.

ground disturbance mitigation (also known as disturbance mitigation). A discrete form of compensatory mitigation, unique to the ground disturbance cap implementation, and separate and distinct from other required mitigation in the DRECP LUPA. The disturbance mitigation requirement is triggered when the ground disturbance condition of the California Desert National Conservation Lands and/or ACEC is at or above its designated cap. The disturbance mitigation requirement remains in effect until the California Desert National Conservation Lands and/or ACEC drops below its designated cap. Refer to LUPA Section II.2.1 for the full ground disturbance cap implementation methodology. The methodology is repeated in Section II.2.2, and in CMAs NLCS-DIST-2 and ACEC-DIST-2.

ground-mounted distributed generation project. For purposes of DRECP LUPA, a solar power system of 20 megawatts (MW) or less consisting of solar modules held in place by racks or frames that are attached to ground-based mounting supports.

H

habitat assessment. As required in the LUPA-BIO CMAs. The DRECP land cover mapping and/or species model(s), updated mapping and species models, reconnaissance-level site visits, available aerial photography/imagery, and mapping of vegetation types and species' suitable habitat are all examples of the type of information that would be utilized during a habitat assessment. For all activities, a habitat assessment is required to assess site-specific vegetation types and Focus and BLM Special Status Species.

herd area. The areas on BLM land in which wild horses and burros were found when the Wild Free-Roaming Horses and Burros Act of 1971 was passed. These are the only areas BLM may manage horses by law.

Herd Management Area. A BLM land allocation. The areas within each herd area that BLM manages to sustain healthy and diverse wild horse and burro populations over the long term.

I

impervious and urban built-up land. Existing developed areas based on the DRECP land cover map.

J

Joshua tree woodlands. Evenly distributed with Joshua trees at $\geq 1\%$ and *Juniperus* and/or *Pinus* spp. $< 1\%$ absolute cover in the tree canopy (Thomas et al. 2004).

K

kilowatt (kW). Measure of energy equal to 1,000 watts.

L

land tenure actions. Jurisdictional or ownership changes in public lands. Tenure is derived from the Latin word “tenet” meaning “to hold.” Thus, land tenure describes the way in which land is held. These adjustments are accomplished through such actions as disposal, acquisition, or withdrawal.

land use authorization. As used in this LUPA, a term to describe any authorization or instrument to occupy, develop, or use BLM land issued under various realty program authorities available to the BLM, including right-of-way grants, leases, permits, licenses, and easements. The term does not include renewable energy projects and their related ancillary facilities.

Land Use Plan Amendment (LUPA). The LUPA is a set of decisions that establishes management direction for BLM-administered land within an administrative area through amendment to existing land use plans. The DRECP BLM LUPA amends the following BLM land use and resource management plans (RMPs): CDCA Plan and its amendments: Western Mojave Plan (WEMO), Northern and Eastern Colorado Desert Coordinated Management Plan (NECO), and Northern and Eastern Mojave Plan (NEMO). The DRECP LUPA also amends portions of the Bishop RMP and the Bakersfield RMP. Described in Section 202 of the FLPMA of 1976, as amended, and in regulation 43 CFR 1600.

Legislatively and Legally Protected Areas (LLPAs). Existing protected lands, including: Wilderness Areas, National Monuments, National Parks, National Preserves, National Wildlife Refuges, California State Parks and Recreation Lands, CDFW Conservation Areas (Ecological Reserves and Wildlife Areas), CDFW areas, privately held conservation areas including mitigation/conservation banks approved by the USFWS and CDFW, land trust lands, Wilderness Study Areas, Wild and Scenic Rivers, and National Scenic and Historic Trails.

limited area. Under BLM's Trails and Travel Management program, an area restricted at certain times, in certain areas, or to certain vehicular use.

long-term impacts. Ground and/or vegetation disturbance that results in impacts lasting greater than 2 years.

LUPA Decision Area. The lands within the LUPA area for which the BLM has the authority to make land use and management decisions. This includes all BLM-administered lands within the interagency DRECP Plan Area, as well as BLM-administered lands within the CDCA outside of the interagency DRECP Plan Area. It excludes some LLPAs and all lands within 1 mile of the Colorado River, which are administered by the BLM-Arizona State Office.

LUPA Planning Area. All BLM-managed lands in the LUPA Decision Area, as well as all BLM managed LLPAs.

M

maximum extent practicable or feasible (as utilized in the LUPA CMAs). A standard identified in the LUPA CMAs and applied to implementation of activities. Under this standard, implementation of the CMA is required unless there is no reasonable or practicable means of doing so that is consistent with the basic objectives of the activity. The term "maximum extent practicable" as used here in the DRECP LUPA is applicable only to its use in the CMAs; it does not apply to the term as it is used in the Endangered Species Act of 1973.

megawatt (MW). Measure of energy equal to one million watts. Used as a measure of instantaneous generation capacity from a generation facility.

microphyll woodlands. Consist of drought-deciduous, small-leaved (microphyllus), mostly leguminous trees. Occurs in bajadas and washes where water availability is somewhat higher than the plains occupied by creosote bush and has been called the "riparian phase" of desert scrub (Webster and Bahre 2001). Composed of the following alliances: desert willow, mesquite, smoke tree, and the blue palo verde-ironwood.

Military Expansion Mitigation Lands (MEMLs). Lands conserved as mitigation for the expansion of Department of Defense installations and considered part of existing conservation areas under the DRECP BLM LUPA.

military lands. Department of Defense installations within the DRECP Plan Area.

minor incursion. Small-scale allowable impacts to sensitive resources, as per specific CMAs, that do not individually or cumulatively compromise the conservation objectives of

that resource or rise to a level of significance that warrants development and application of more rigorous CMAs or a DRECP LUPA amendment. Minor incursions may be allowed to prevent or minimize greater resource impacts from an alternative approach to the activity. Not all minor incursions are considered unavoidable impacts.

mitigation. As defined under both the National Environmental Policy Act (NEPA), mitigation includes: (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments.

Mojave yucca rings. Rings of Mojave yucca (*Yucca schidigera*) that form in a similar manner as described for creosote bush rings (see definition). Mojave yucca reproduces sexually through the production of seed; vegetative reproduction is much more common and likely much more important to its persistence and spread (LaPre 1979; Gucker 2006). The species produces sprouts from short rhizomes that are close to parent stems (Gucker 2006). Rings form as the clonal growth proceeds outward from the original parent stem, and the central plant ages and dies (Gucker 2006). Mojave yucca rings can be as large as 20 feet in diameter and have up to 130 stems. Rings this large are thought to be at least 2,100 years old (mojavedesert.net 2013).

Monitoring and Adaptive Management Program (MAMP). A component of the DRECP BLM LUPA. The MAMP is the vehicle for structuring and reporting adaptive management.

N

National Landscape Conservation System (NLCS). In accordance with and as defined by Public Law 111-11 in the Omnibus Public Land Management Act of 2009 (PL 111-11), Sections 2002(a),(b)(1)(A-F), and (b)(2)(D), the NLCS is a BLM land use designation to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations. Areas specially designated as part of the NLCS in PL 111-11 are Wilderness, Wilderness Study Areas, National Monuments, National Scenic Trails, National Historic Trails, and National and Wild and Scenic Rivers. These NLCS lands are part of the LLPAs in the DRECP LUPA. PL 111-11 also directed BLM to designate public land within the CDCA administered for conservation purposes as part of the NLCS. These lands are the **California Desert National Conservation Lands** and are part of the LUPA conservation designations. The California Desert National Conservation Lands designated in the DRECP LUPA are an addition to the other components of the NLCS. The

DRECP LUPA CMAs use the terms and acronyms, NLCS, CDNCL and NCL (National Conservation Lands) interchangeably.

nonfederal lands. Land owned by state agencies, local jurisdictions (e.g., cities or counties), non-governmental organizations, or private citizens, or otherwise not under federal ownership or management.

no surface occupancy. A fluid mineral leasing stipulation that prohibits occupancy or disturbance on all or part of the lease surface to protect special values of uses. Lessees may explore for or exploit the fluid minerals under leases restricted by this stipulation by using directional drilling from sites outside the no surface occupancy area. The no surface occupancy stipulation is used in CMAs relative to geothermal leasing on specific land allocations.

O

occupied habitat. Suitable habitat determined to be inhabited by a Focus or BLM Special Status Species based on the results of a habitat assessment and species-specific presence/absence or protocol surveys. This term is not applicable to wide-ranging large mammals with often poorly defined home ranges. For example, linkages may be typically unoccupied most of the time but nonetheless critical to population viability. In addition, the concept is not applicable to nomadic species, such as burro deer (*Odocoileus hemionus eremicus*), which opportunistically exploit flushes of new plant growth in response to unpredictable precipitation patterns. Thus, an area may not be used for many years because of a lack of summer thunderstorms, but then used heavily when it does rain in that area.

occurrences. Positive detections of specific wildlife or plant species or vegetation type in an area, resulting from protocol or presence/absence surveys, generally confirmed by a qualified biologist or botanist.

Open Off-Highway Vehicle (OHV) Lands. Designations on BLM-administered lands where motorized and non-motorized uses, including cross-country travel, is permitted (generally referred to as Open Areas or Designated Open OHV Areas). The LUPA has designated the open OHV Areas in the DRECP Plan Area as SRMAs.

Open OHV Lands – Imperial Sand Dunes. Open OHV Lands within the approved Imperial Sand Dunes Recreation Area Management Plan (ISDRA). These lands are within the DRECP LUPA planning area boundary, but are not part of the DRECP LUPA Decision Area. The DRECP LUPA does not result in any changes to the ISDRA.

P

pre-activity survey. Surveys conducted prior to project or activity site preparation and construction or implementation of an activity to determine presence and distribution of Focus and BLM Special Status Species, suitable habitat for these species, and/or vegetation types, as well as the need to implement applicable CMAs.

presence/absence survey. A survey conducted during the planning phase of a proposed activity to determine the presence/absence by a Focus or BLM Special Status Species, when a standard protocol survey for that species is not available, as specified in the species-specific CMAs or available from BLM, or USFWS or CDFW as approved for use by BLM. A presence/absence survey may replace a protocol survey in some other circumstances, depending on site conditions and/or timing of the survey (e.g., breeding season), with approval from BLM, in coordination with USFWS and CDFW, as appropriate.

Proposed LUPA. The Proposed LUPA was the BLM's preferred alternative in the Final Environmental Impact Statement (EIS). The Proposed LUPA and Final EIS built on the Draft LUPA and EIS, and incorporated the response to public comment on the Draft LUPA and EIS. The Proposed LUPA was protestable to the BLM Director, as outlined in the Dear Reader Letter that accompanied the Proposed LUPA and Final EIS.

protocol survey. Species-specific surveys that are conducted under a protocol that has been adopted by the USFWS and/or CDFW or is otherwise scientifically accepted for determining the occupancy or presence and absence of Focus and BLM Special Status Species. These surveys are required as specified in the species-specific CMAs in the LUPA.

public land. Land or interest in land owned by the United States and administered by the U.S. Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, but not including (1) lands on the outer continental shelf and (2) lands held for the benefit of Indians, Aluets, and Eskimos.

public land, federal. Land or interest in land owned by the United States, and administered by a federal agency (see **federal lands**).

public land, nonfederal. Land or interest in land owned by the State of California, or the counties, typically administered by a state or local agency.

R

Renewable Energy Action Team (REAT) Agencies (also known as REAT Agencies or DRECP partner agencies). The DRECP REAT comprises representatives from the BLM, California Energy Commission (CEC), USFWS, and CDFW.

renewable energy project area. The total land area affected by a renewable energy activity, including the area directly and indirectly affected (equates to approximately 7.1 acres/MW for solar development, 40 acres/MW for wind development, and 5 acres/MW for geothermal development).

right-of-way avoidance area. An area that is to be avoided by, but may be available for, location of land use authorizations and non-renewable energy activities, if the authorization has special stipulations to meet planning goals and objectives for that area. If a land use authorization already exists in an avoidance area, a new authorization would be encouraged, and may be required, to collocate within the bounds of the existing use authorization.

right-of-way exclusion area. An area that is not available for land use authorizations under any conditions.

S

setback. A defined distance, usually expressed in feet or miles, from a resource feature (such as the edge of a vegetation type or an occupied nest) within which an activity would not occur; otherwise often referred to as a buffer. The purpose of the setback is to maintain the function and value of the resource features identified in the DRECP LUPA CMAs.

short-term impacts. Ground and/or vegetation impacts that result in effects lasting 2 years or less.

solar project. Activity that involves the construction, operation, maintenance and eventual decommissioning of a facility that generates energy from sunlight, including photovoltaic panels and thermal systems that convert the heat from sunlight into steam. Solar projects may include up to several acres of photovoltaic or mirror panel arrays, a thermal tower, access roads, maintenance facilities, generators, foundations, and transformers, or other supporting infrastructure.

Special Recreation Management Area (SRMA). Designation on BLM-administered lands that are recognized and managed for their recreation opportunities, unique value and importance. SRMAs are high-priority areas for outdoor recreation as defined in the BLM Land Use Planning Handbook H-1601-1 (2005). It is a public lands unit identified in land use plans to direct recreation funding and personnel to manage for a specific set of recreation activities, experiences, opportunities and benefits. Both land use plan decisions and subsequent implementing actions for recreation in each SRMA are geared to a strategically identified primary market— destination, community, or undeveloped areas.

stressors. Physical, chemical, or biological factors (or conditions) that affect biological resources, including species or their suitable habitat, vegetation types, and/or important

ecosystem processes. The precise contribution of each stressor to a species' population may be uncertain, including which stressors have the greatest effect. In many cases stressors interact, and a combination of various stressors may affect a species.

suitable habitat. In general, Focus and BLM Special Status Species habitat consisting of land within a species range that has—in the case of wildlife, breeding and foraging habitat characteristics required by the species, or in the case of plants, vegetation and microhabitat characteristics—consistent with known or likely occurrences, as determined by the habitat assessment.

T

transmission lines. Linear facilities that move electricity from generating sites to electrical substations, and then on to the electrical distribution network. Transmission lines generally consist of: 1) *collector lines, or generator interconnection lines ("gen-tie" lines)* that connect generation projects to collector substations; 2) *connector lines* that connect lower voltage substations with higher voltage substations; and 3) *delivery lines* that support the long distance, bulk power transfer of electricity between generation centers and load centers, generally at high voltage.

transmission activity. Activities that involve the construction, operation, and maintenance of a transmission line, including step-up transformers, towers, and substations, but generally consisting of a linear type of disturbance.

transmission aligned. Renewable energy generation development that occurs in areas immediately adjacent, or in close proximity, to existing transmission facilities and/or approved designated utility corridors. Aligning renewable energy generation development with the existing approved utility corridors or lines (i.e. transmission system) is meant to minimize resource impacts by reducing the need for new, unplanned transmission infrastructure.

Transmission Technical Group (TTG). An independent technical advisory group, convened by the CEC, that assisted with transmission planning for the DRECP.

Travel Management Areas. On BLM-administered land, polygons or delineated areas where a rational approach has been taken to classify areas as open, closed, or limited, and which have an identified and/or designated network of roads, trails, ways, and/or other routes that provide for public access and travel across the LUPA Planning Area.

tribal lands. Those lands that constitute "Indian Country" within the meaning of Title 18 United States Code Section 1151.

U

unavoidable impacts to resources. Small-scale impacts to sensitive resources, as allowed per specific CMAs, that may occur even after such impacts have been avoided to the maximum extent practicable (see definition). Unavoidable impacts are limited to minor incursions (see definition), such as a necessary road or pipeline extension across a sensitive resource required to serve an activity.

V

valid existing rights. A documented, legal right or interest in the land that allows a person or entity to use said land for a specific purpose. Such rights include fee title ownership, mineral rights, rights-of-way, easements, permits, licenses, etc. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

Variance Process Lands (VPL). These lands are potentially available for renewable energy development, but projects on Variance Process Lands have minimal streamlining and are not incentivized. Variance Process Lands have a specific set of CMAs. Project Applicants must demonstrate that a proposed activity on Variance Process Lands will avoid, minimize, and/or mitigate sensitive resources as per the CMAs, will be compatible with any underlying BLM land allocation, and per the CMAs be compatible with and not have an adverse effect on the LUPA design and DRECP strategies. Renewable energy applications in Variance Process Lands will follow the process described in the Western Solar Plan Record of Decision, Section B.5.

vegetation types (also referred to a desert vegetation types or communities and DRECP vegetation types). Vegetation types are defined as assemblages of vegetation of similar types and the plant and animal species that use those vegetation types as habitat. A vegetation type is generally characterized by its similarities and the natural ecological processes that dominate the type and give it its unique characteristics. Vegetation types are included as a key element of the DRECP conservation framework, and have specific CMAs. For the purposes of mapping and characterization in the DRECP, vegetation types are mapped within the National Vegetation Classification System hierarchy at the “group” level, which is finer-grained than the broad general community groupings but coarser than “alliances.”

Visual Resource Management (VRM) Classes. BLM categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes, I–IV. Each class has an objective that prescribes the amount of change allowed in the characteristic landscape.

W

Wildlife Allocation. BLM conservation designation on BLM-administered lands where management emphasizes wildlife values, but the area does not contain the same sensitive values or management limitations as an ACEC.

wind project. An activity that involves the construction, operation, maintenance, and eventual decommissioning of a facility that generates energy from wind, using an array of turbines to capture and convert the wind energy to electricity. Wind projects may include up to several acres of turbines and foundations, access roads, maintenance facilities, generators, and transformers.

withdrawal. Removal or withholding of public lands by statute or secretarial order from the operation of some or all of the public land laws, such as from hard-rock mining or patent entry, in order to maintain other public values in the area. A withdrawal can also be used to reserve an area for a particular public purpose or program or to transfer jurisdiction over an area of public land from one federal department, bureau, or agency to another.

Appendix C: Acronyms and Abbreviations

°F	Degrees Fahrenheit
µg/m ³	Micrograms Per Cubic Meter
AADT	Annual Average Daily Traffic
AB	Assembly Bill
ACEC	Picacho Area Of Critical Environmental Concern
AMSL	Above Mean Sea Level
APCD	Air Pollution Control Districts
APE	Area Of Potential Effects
BLM	Bureau of Land Management
BMP	Best Management Practice
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQ	President's Council on Environmental Quality
CEQA	California Environmental Quality Act of 1970
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
CGP	California General Permit
CMA	Conservation Management Action
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
CWA	Clean Water Act
dBA	Decibels on the A-weighted Scale
DRECP	Desert Renewable Energy Conservation Plan
EA	Environmental Assessment
ECFO	El Centro Field Office
EEC	Environmental Evaluation Committee
EIR	Environmental Impact Report
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act of 1972
FCR	Field Contact Representative
FLPMA	Federal Land Policy and Management Act of 1876
GHG	Greenhouse Gas
H:V	Horizontal to Vertical
HAP	Hazardous Air Pollutant
Imperial County	Imperial County Planning Department
IS	Initial Study
KOPs	Key Observation Points
kW	Kilowatt
Ldn	Day/Night Average Sound Level
Leq	Energy-Averaged Sound Level
LUPA	Land Use Plan Amendment
MBTA	Migratory Bird Treaty Act of 1918

Mining Law	General Mining Law of 1872
MLRA	Major Land Resource Area
MND	Mitigated Negative Declaration
MSHA	Mine Safety and Health Administration
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Repatriation Act
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Properties Act of 1966
NO _x	Nitrogen Oxide
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWPR	Navigable Waters Protection Rule
OHV	Off-Highway Vehicle
PDF	Project Design Feature
Plan	Existing Oro Cruz Pit Area Exploration Plan of Operations
PM ₁₀	Particulate Matter 10 Microns in Diameter or Less
PM _{2.5}	Particulate Matter 2.5 Microns in Diameter or Less
PRC	Public Resources Code
Project	Oro Cruz Exploration Project
RFFA	Reasonably Foreseeable Future Actions
RWQCB	Regional Water Quality Control Board
SCIC	South Coastal Information Center
SGMA	Sustainable Groundwater Management Act of 2014
SGP	Stormwater General Permit
SIP	State Implementation Plan
SMARA	California Surface Mining and Reclamation Act of 1975
SMP	SMP Gold Corp.
SO ₂	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Place
US	United States
USACE	US Army Corps of Engineers
USC	US Code
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
VAA	Visual, Auditory, and Atmospheric
VOC	Volatile Organic Compound
VRM	Visual Resource Management

Appendix D: References

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Appendix E: Technical Studies

Project Emissions Summary

	PM		PM ₁₀		PM _{2.5}		CO		NOx		SO ₂		VOC	
	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)	(lb/day)	(tons/yr)
Road Construction														
Non-Fugitives	0.00	0.00	0.00	0.00	2.43	0.02	42.57	0.43	45.58	0.46	0.08	0.00	3.08	0.03
Fugitives	50.62	0.51	12.91	0.13	1.40	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drill Site Construction														
Non-Fugitives	0.00	0.00	0.00	0.00	0.97	0.00	16.92	0.07	18.07	0.07	0.03	0.00	1.27	0.01
Fugitives	87.26	0.35	22.20	0.09	2.80	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exploratory Drilling**														
Non-Fugitives	3.98	0.25	3.98	0.25	7.93	0.43	132.73	7.26	120.44	6.35	0.21	0.01	9.18	0.50
Fugitives	220.93	13.17	56.57	3.38	5.88	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Helicopter Use Emissions														
Non-Fugitives	0.07	0.00	0.07	0.00	0.07	0.00	3.85	0.02	6.38	0.04	0.02	0.00	3.14	0.02
Laydown Yard Emissions**														
Non-Fugitives	0.27	0.03	0.27	0.03	2.39	0.24	103.40	10.34	45.06	4.51	0.16	0.02	5.18	0.52
Fugitives	147.97	17.19	38.02	4.42	3.80	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Hourly and Annual Project Emissions*														
Maximum Non-Fugitives	4.32	0.28	4.32	0.28	10.39	0.67	239.98	17.62	171.89	10.90	0.39	0.03	17.50	1.04
Maximum Fugitives	368.90	30.36	94.59	7.79	9.68	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Maximum	373.22	30.64	98.90	8.08	20.07	1.46	239.98	17.62	171.89	10.90	0.39	0.03	17.50	1.04

*Assumes Exploratory Drilling and Laydown Yard emissions occur simultaneously

**Includes Stationary Source Combustion Emissions

Hazardous Air Pollutants (HAPs)*		
Pollutants	(lbs/day)	(tons/yr)
Benzene	2.15E-01	1.69E-02
Toluene	9.42E-02	7.37E-03
Xylenes	6.57E-02	5.14E-03
1,3-Butadiene	9.01E-03	7.05E-04
Formaldehyde	2.72E-01	2.13E-02
Acetaldehyde	1.77E-01	1.39E-02
Acrolein	2.13E-02	1.67E-03
Naphthalene	1.95E-02	1.53E-03
Acenaphthylene	1.17E-03	9.12E-05
Acenaphthene	3.27E-04	2.56E-05
Fluorene	6.73E-03	5.26E-04
Phenanthrene	6.77E-03	5.30E-04
Anthracene	4.31E-04	3.37E-05
Fluoranthene	1.75E-03	1.37E-04
Pyrene	1.10E-03	8.61E-05
Benzo(a)anthracene	3.87E-04	3.03E-05
Chrysene	8.13E-05	6.36E-06
Benzo(b)fluoranthene	2.28E-05	1.79E-06
Benzo(k)fluoranthene	3.57E-05	2.79E-06
Benzo(a)pyrene	4.33E-05	3.39E-06
Indeno(1,2,3-cd)pyrene	8.64E-05	6.76E-06
Dibenz(a,h)anthracene	1.34E-04	1.05E-05
Benzo(g,h,i)perylene	1.13E-04	8.81E-06
Total HAPs	0.8932774	0.06993675

Greenhouse Gas Emissions (GHGs)*		
Pollutants	(lb/day)	(tons/yr)
CO ₂	53,121	2,955
CH ₄	110.76	0.80
N ₂ O	21.62	0.16
Total CO₂e	62,333	3,021

Project Operational Emissions						
lb/day						
	NOx	ROG/VOC	PM10	SOx	CO	PM2.5
Operations	117.97	10.56	98.90	0.22	107.41	20.07
Thresholds	137	137	150	150	550	550

Construction Emissions				
	PM10	ROG/VOC	NOx	CO
Construction	35.12	4.35	63.65	59.50
Thresholds	150	75	100	550



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Memorandum

To: Mayra Martinez, Bureau of Land Management
Carrie Sahagun, Bureau of Land Management
Grant Day, Bureau of Land Management

From: Shelby Hockaday, Stantec Consulting Services Inc.

Date: May 4, 2022

Project: Oro Cruz Exploration Project
Stantec Project Number 203722070

Subject: Noise Modeling for Indirect Auditory Area of Potential Effect

This memorandum transmits the noise modeling results for the SMP Gold Corp.'s (SMP) Oro Cruz Exploration Project (Project).

INTRODUCTION

Stantec Consulting Services Inc. (Stantec) was contracted by SMP to conduct a preliminary noise impact analysis following conversations with the Bureau of Land Management (BLM) El Centro Field Office to determine an appropriate Indirect Auditory Area of Potential Effect (Indirect Auditory APE) for a cultural resources and noise analysis in the anticipated Environmental Assessment (EA) for the Project under the National Environmental Policy Act (NEPA). The Noise Control Act of 1972 required the U.S. Environmental Protection Agency (EPA) to establish noise emission criteria as well as noise testing methods to protect public health and welfare against hearing loss, annoyance, and activity interference, which correlates with the human response to noise. The EPA's recommendation for acceptable noise level limits affecting residential land use is 55 decibels on the A-weighted scale (dBA) day/night average sound level (L_{dn}) for outdoors and 45 dBA L_{dn} for indoors (EPA 1972). These levels of noise are considered those that will permit spoken conversation and other activities such as sleeping, working, and recreation, which are all considered part of the daily human condition; these levels represent averages of acoustic energy over periods of time. Additionally, Section 106 of the National Historic Preservation Act (NHPA) of 1966 (54 United States Code 300101 et seq.) guides that an Indirect Auditory APE should be delineated and should include all locations from which elements of the proposed Project may cause adverse auditory effects to cultural or historic properties.

The Indirect Auditory APE developed for the Project is anticipated to be included in the pending Class III Inventory report that is currently being prepared as required under Section 106 of the NHPA. The Indirect Auditory APE would also be used for analysis of cultural resources and noise impacts in the respective Affective Environment and Environmental Consequences sections of the anticipated EA. Stantec subcontracted with Saxelby Acoustics to conduct an analysis of potential noise level occurrences associated with the Project.

The Project area would include a total of approximately 626 acres on public lands administered by the BLM El Centro Field Office with anticipated total surface disturbance from exploratory drilling activities of up to 20.54 acres. The Project proposes up to 65 temporary drilling locations within the Project area. The Project would have a life expectancy of up to two years, with drilling occurring over up to two weeks at each of the 65 proposed drill sites prior to moving to a new drill site location. There would only be two drill rigs in operation at a time within the Project area, that would operate on a 12- or 24-hour-per-day schedule, with potential for both drill rigs operating within one Drill Area (SMP, 2021).

METHODOLOGY

Stantec consulted with Saxelby Acoustics to develop noise contours through noise modeling software (SoundPlan) to detail the furthest distance in miles where potential Project noise would attenuate to an imperceptible or nearly imperceptible level with a maximum of two drill rigs running at once, per the activities proposed in SMP's Existing Oro Cruz Pit Area Exploration Plan of Operations (Plan). It was recommended that the furthest distance where noise would be nearly imperceptible would be measured down to 25 dBA.

Exploration activities were quantified using a comprehensive list of Project-proposed equipment from the Plan. Because the exact locations of drill sites are unknown at this time and are flexible per the Plan, prior to Saxelby Acoustics running the noise model, Stantec developed potential noise source locations along the boundaries of each of the seven proposed drill areas. The number of potential noise source locations were chosen based on four points along four sides of each of the seven drill areas (28 points total) to represent noise sources along the boundary traveling from each cardinal direction (north, south, east, and west).

Saxelby Acoustics then developed a noise model for the worst-case scenario of noise sources with all 28 points simulating drill rigs in all seven drill areas running at once to determine the absolute furthest distance, and in which direction, that noise would travel according to the following noise standards: Imperial County 45 dBA equivalent or energy-averaged sound level (L_{eq}) nighttime noise standard, and the EPA's 55 dBA L_{dn} . The noise contours resulting from this scenario showed that noise would likely travel the furthest west based on the topography of the area. Based on this initial scenario, it was determined that the following four scenarios would most realistically represent the furthest that noise would travel as generated from the Project:

- Two drill rigs operating in Drill Area 2 to provide a realistic look at potential noise traveling to the northwest;
- Two drill rigs operating in Drill Area 3 to provide a realistic look at potential noise traveling to the northwest;
- Two drill rigs operating in Drill Area 4 to provide a realist look at potential noise traveling to the southwest; and
- Two drill rigs operating in Drill Area 6 to provide a realistic look at potential noise traveling to the southwest.

All scenarios included noise generated form the Drill Area and the staging area equipment. Noise generated from helicopter use via the helicopter landing pad proposed in Drill Area 1 was not included in the noise model as it would not contribute to continuous noise generated by Project drilling activities.

RESULTS OF THE NOISE MODELING

The complete details of the noise modeling results as developed and analyzed by Saxelby Acoustics are included as **Attachment 1**.

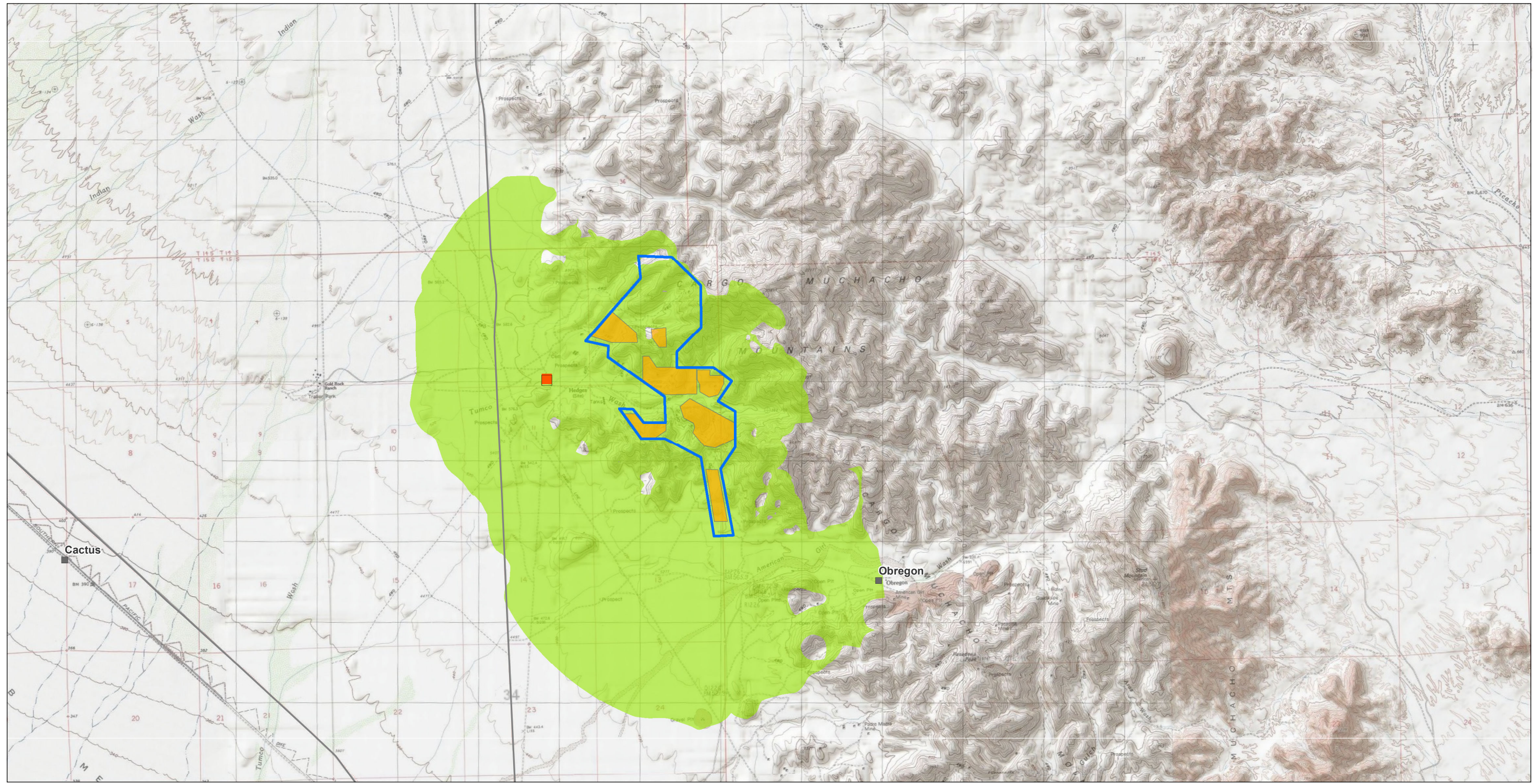
The Indirect Auditory APE is shown on **Figure 1**, which incorporates the areas from Drill Areas 2, 3, 4, and 6 out to the furthest noise contour where noise would attenuate to 25 L_{eq} (24-hour) (L_{eq} over 24-hours), a nearly inaudible level to the human ear (**Attachment 1**), which is approximately 1.7 miles to the southwest from the Project area. Noise impacts as a result of exploratory drilling activities would be temporary in nature and would not be stationary throughout the one-to-two-year life of the Project given the nature of the proposed approximately two-week drilling campaign at each drill site. The Indirect Auditory APE shown on **Figure 1** was determined to be an appropriate distance to assess indirect auditory impacts to cultural and historic properties of concern in the area, including the Tumco Historic Mine (**Figure 1**), which has been identified as a cultural property of concern in relation to potential Project impacts. The Indirect Auditory APE will also be used as the noise area of analysis in the Project's anticipated EA.

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FIGURES

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Legend

- Tumco Historic Mine
- Indirect Auditory APE
- Oro Cruz Plan Boundary
- Drill Hole Areas

1 in = 4,000 feet

SMP GOLD CORP.
ORO CRUZ MINE

Imperial County, CA
NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: BT	2ND REVIEW: SH
DATE: 05/04/2022		PROJECT NO: 203722070

Figure 1
Potential Project Noise
Impact Area

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cad
 Sources: Esri, Gamma, USGS, NPS

ATTACHMENT 1

Memorandum

To: Shelby Hockaday, Project Manager
Stantec
5390 Kietzke Lane Suite 103
Reno NV 89511-2302
shelby.hockaday@stantec.com

From: Luke Saxelby, INCE Bd. Cert.
Principal Consultant
Board Certified, Institute of Noise Control Engineering

Date: April 13, 2022

Project: SMP Gold Corp. Oro Cruz Exploration
Saxelby Acoustics Job Number 220208

Subject: Oro Cruz Exploration Drilling Noise Mapping



INTRODUCTION

Saxelby Acoustics has prepared this letter to summarize our noise modeling for the SMP Gold Corp. Oro Cruz Exploration Drilling project.

BACKGROUND AND INTENT

Saxelby Acoustics has been engaged to prepare noise modeling of proposed drilling operations for the above-reference project located in Imperial County, California. The project is located within the Cargo Muchacho mountains, approximately 14 miles northwest of the City of Yuma, Arizona. Saxelby Acoustics was engaged to map noise contours for the proposed drilling operations. The four scenarios mapped in this analysis are considered worst-case for noise traveling west and south from the proposed drilling areas, resulting in the furthest potential for drilling noise audibility. Drilling noise would be substantially shielded towards the east and north due to topography.

NOISE CRITERIA

For this analysis, Saxelby Acoustics mapped noise contours for four operating scenarios, as described below. For each operating scenario, noise levels are mapped relative to three criteria. The first map of each scenario shows noise levels down to 25 dBA L_{eq} ¹. Based upon our experience, an average drilling noise level of 25 dBA L_{eq} would likely be barely audible to inaudible at most locations. Noise levels were also mapped down to 55 dBA L_{dn} , which is the US EPA recommended exterior noise level limit for outdoor uses, as shown in **Table 1**. Finally, noise levels were also mapped down to 45 dBA L_{eq} which is the Imperial County Municipal Code nighttime noise standard for residential uses.²

¹ See **Appendix A** for definitions of acoustic terms.

² Imperial County Code of Ordinances. Section 90702.00.

https://library.municode.com/ca/imperial_county/codes/code_of_ordinances?nodeId=TIT9LAUSCO_DIV7NOABCO_CH2LI_90702.00SOLELI

TABLE 1: SUMMARY OF NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT THE PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Effect	Level dB	Activity Area
Hearing Loss	70 L _{eq} (24-hour)	All areas.
Outdoor activity interference and annoyance	55 L _{dn}	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	55 L _{eq} (24-hour)	Outdoor areas where people spend limited amounts of time (e.g., school yards, playgrounds)
Indoor activity Interference and Annoyance	45 L _{dn}	Indoor residential areas.
	45 L _{eq} (24-hour)	Other indoor areas with human activities (e.g., school yards playgrounds)
Leq (24-hour)	Equivalent A-weighted sound level over 24-hours	
L _{dn}	Day-night average sound level-the 24-hour A-weighted equivalent sound level, with a 10-decibel penalty applied to nighttime levels	
Source: <i>Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety</i> . U.S. EPA March 1974.		

PROJECT ASSUMPTIONS

Saxelby Acoustics assumed that up to two exploration drills could be operating simultaneously in a given drilling area. The following outlines our noise modeling scenarios:

Scenario 1 Continuous Noise Sources

1. Two exploration drills in Area 2, each with 125kW generator
2. Two portable compressors at Staging Area
3. One 125kW generator at Staging Area

Scenario 2 Continuous Noise Sources

1. Two exploration drills in Area 3, each with 125kW generator
2. Two portable compressors at Staging Area
3. One 125kW generator at Staging Area

Scenario 3 Continuous Noise Sources

1. Two exploration drills in Area 4, each with 125kW generator
2. Two portable compressors at Staging Area
3. One 125kW generator at Staging Area

Scenario 4 Continuous Noise Sources

1. Two exploration drills in Area 6, each with 125kW generator
2. Two portable compressors at Staging Area
3. One 125kW generator at Staging Area

NOISE MODELING

For noise modeling input assumptions, Saxelby Acoustics utilized manufacturer’s sound pressure level data for the proposed generators, field-collected data for the drill rigs, and published data for the portable compressors.

In order to input data directly into the SoundPLAN sound prediction model, sound pressure levels must be converted to sound power levels. This conversion is made according to the following formula (Source: Miller, L. N., Bolt, Beranek, & Newman, Inc. (1981). *Noise control for buildings and manufacturing plants*. Equation 6-2):

Where:

PWL = Sound Power Level

SPL = Sound Pressure Level

d = Distance from the center of the noise source to the noise measurement location, measured in meters. Assumes unobstructed sound propagation for a point source located on or near a large flat plane. This is known as “hemispherical sound radiation.”

Sound power level data for each noise source associated with the drilling operations were used as direct inputs to the SoundPLAN Noise Prediction Model (**Table 2**). Existing topography was also input into the noise model. The SoundPLAN noise prediction model is able to predict overall noise levels for multiple noise sources. Inputs to the model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors). Ground type was assumed soft (G=1) for the noise modeling exercise.

Table 2: Sound Power Levels, dBA L₅₀

Equipment / Location	Sound Pressure Level, dBA	Sound Power Level (PWL)	Utilization/Equipment
Noise Level Assumptions			
LF-90D Boart Longyear track-mounted drill rig, or similar	87 dBA at 25 feet	113 dBA	Continuous operation
125 kW generator	65 dBA at 23 feet	90 dBA	Continuous operation
Portable compressor (375 series, or similar)	76 dBA at 50 feet	108 dBA	Continuous operation

Figures 1A-1C show the results of the Scenario 1 noise modeling. **Figures 2A-2C** show the results for Scenario 2. **Figures 3A-3C** show the results for Scenario 3. **Figures 4A-4C** show the results for Scenario 2.

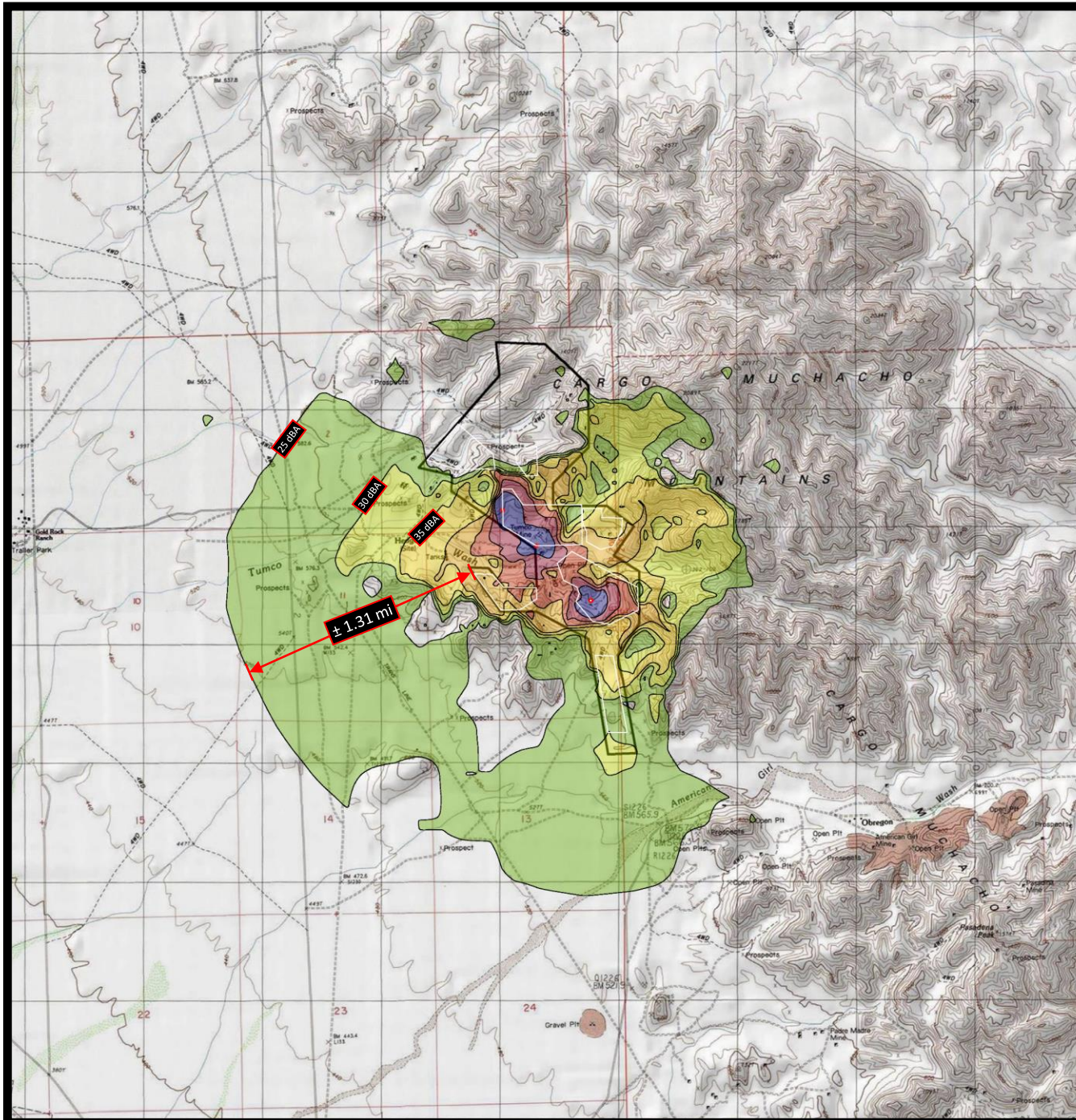
$$PWL = SPL + 10 \times \log(2 \times \pi \times d^2)$$

Oro Cruz Exploration Drilling

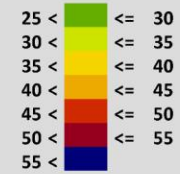
Imperial County, California

Figure 1A

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 2 and Staging Area Equipment –
Contours Down to 25 dBA



Noise Level, dB(A)



Legend

- Point Source
- Drill Areas

Scale 1:4000

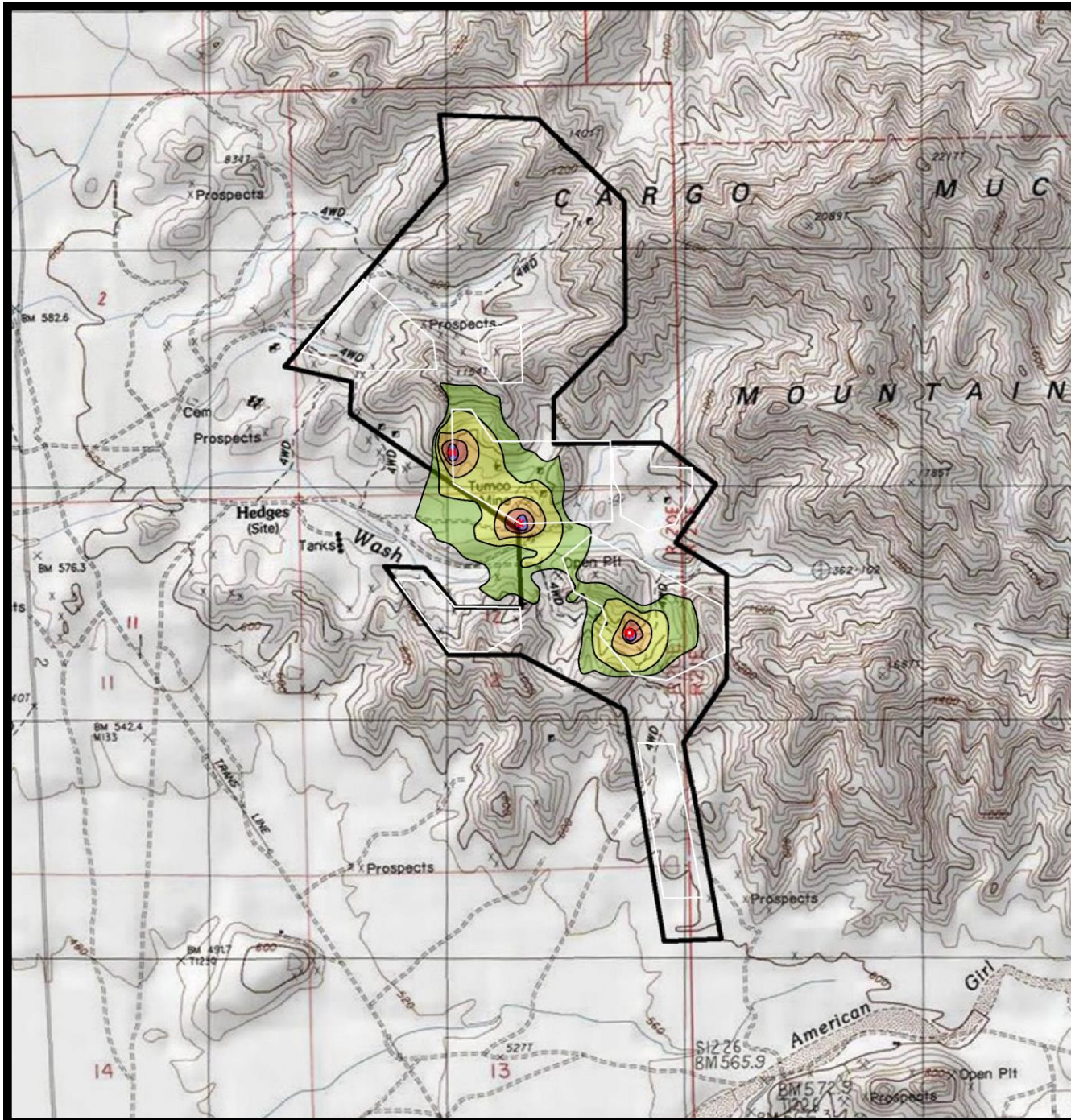


Oro Cruz Exploration Drilling

Imperial County, California

Figure 1B

Project Noise Contours (dBA L_{dn}) –
2 Drills in Area 2 and Staging Area Equipment –
Contours Down to US EPA Exterior 55 dBA L_{dn} Standard



Noise Level, dB(A)

55 <	Green	<= 60
60 <	Yellow-Green	<= 65
65 <	Yellow	<= 70
70 <	Orange	<= 75
75 <	Blue	<= 80

Legend

- * Point Source
- Drill Areas

Scale 1:2000

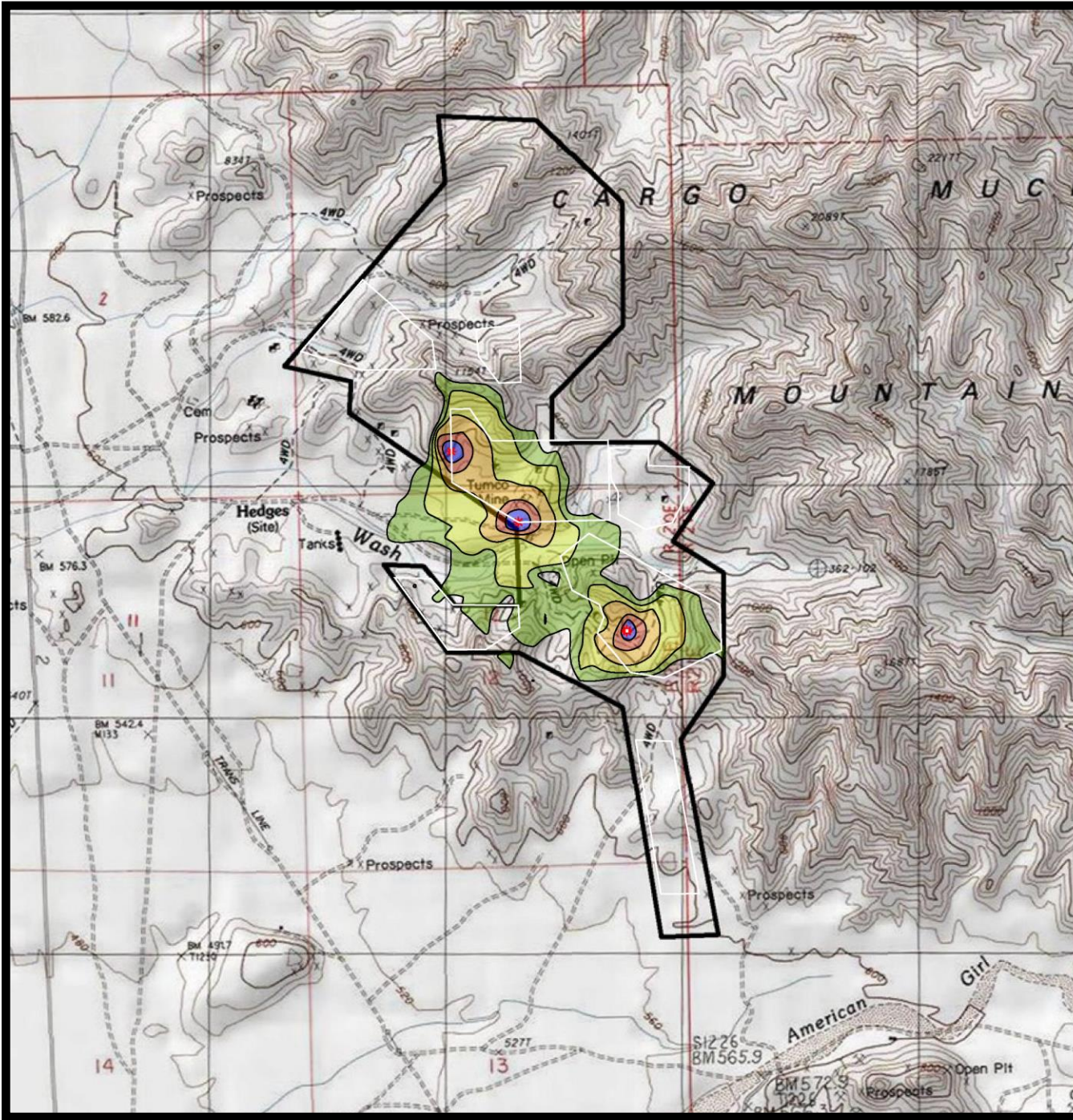


Oro Cruz Exploration Drilling

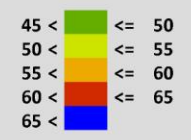
Imperial County, California

Figure 1C

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 2 and Staging Area Equipment –
Contours Down to Imperial County 45 dBA L_{eq}
Nighttime Standard



Noise Level, dB(A)



Legend

- * Point Source
- Drill Areas

Scale 1:2000

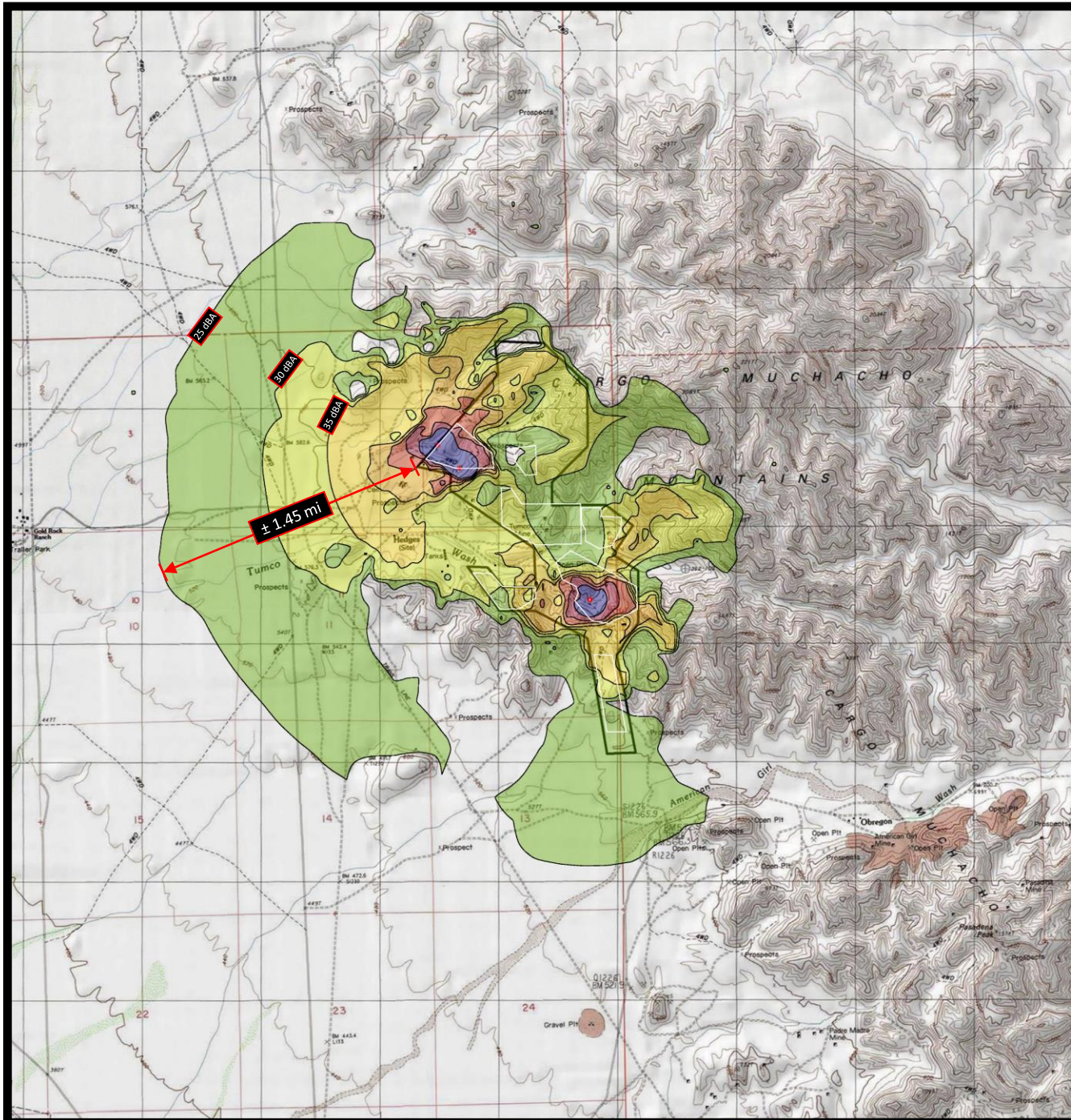


Oro Cruz Exploration Drilling

Imperial County, California

Figure 2A

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 3 and Staging Area Equipment –
Contours Down to 25 dBA



Noise Level, dB(A)

25 <	≤ 30
30 <	≤ 35
35 <	≤ 40
40 <	≤ 45
45 <	≤ 50
50 <	≤ 55
55 <	

Legend

- Point Source
- Drill Areas

Scale 1:4000

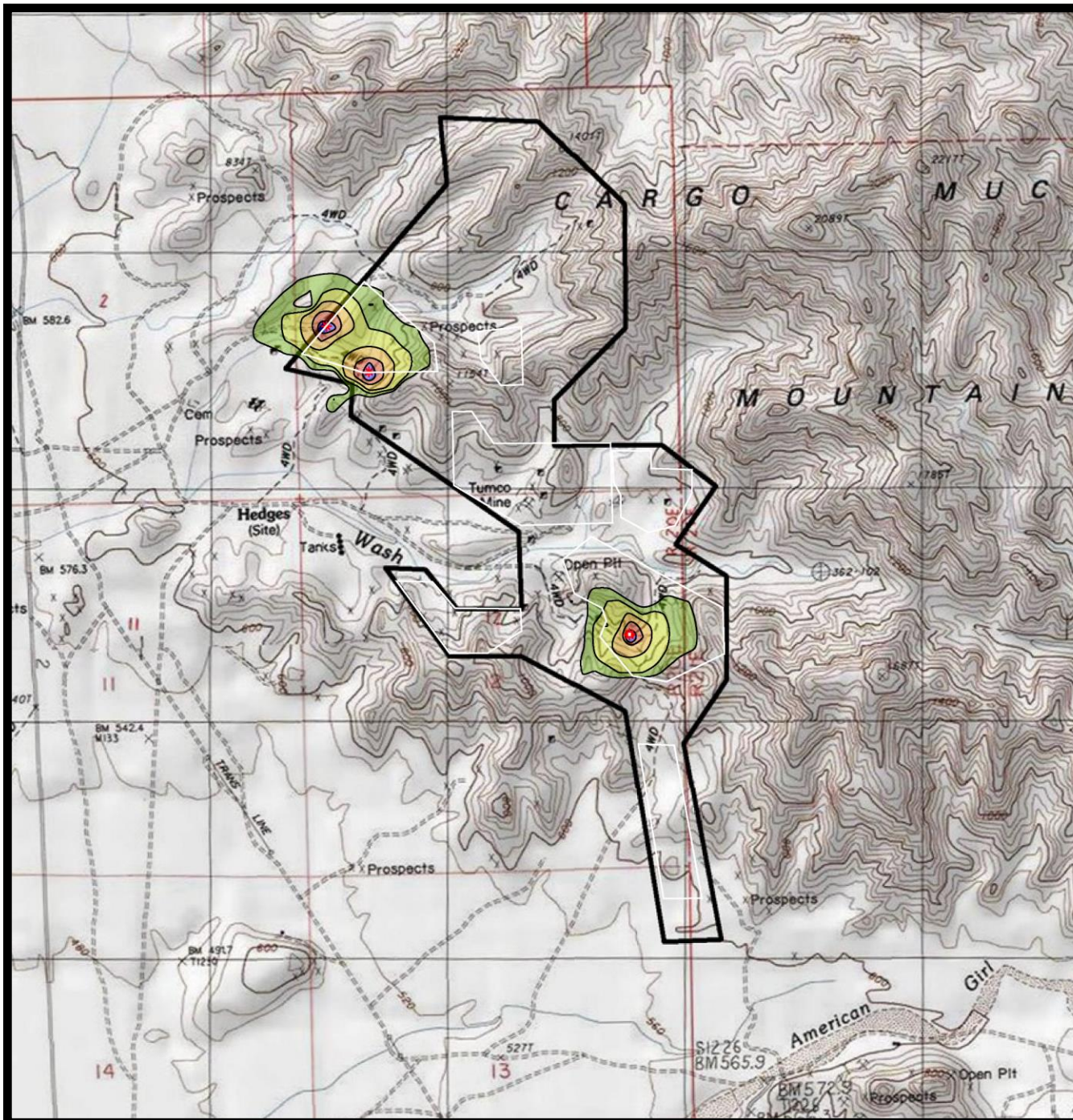


Oro Cruz Exploration Drilling

Imperial County, California

Figure 2B

Project Noise Contours (dBA L_{dn}) –
2 Drills in Area 3 and Staging Area Equipment –
Contours Down to US EPA Exterior 55 dBA L_{dn} Standard



Noise Level, dB(A)

55 <	Green	<= 60
60 <	Yellow-Green	<= 65
65 <	Yellow	<= 70
70 <	Orange	<= 75
75 <	Red	

Legend

- * Point Source
- Drill Areas

Scale 1:2000

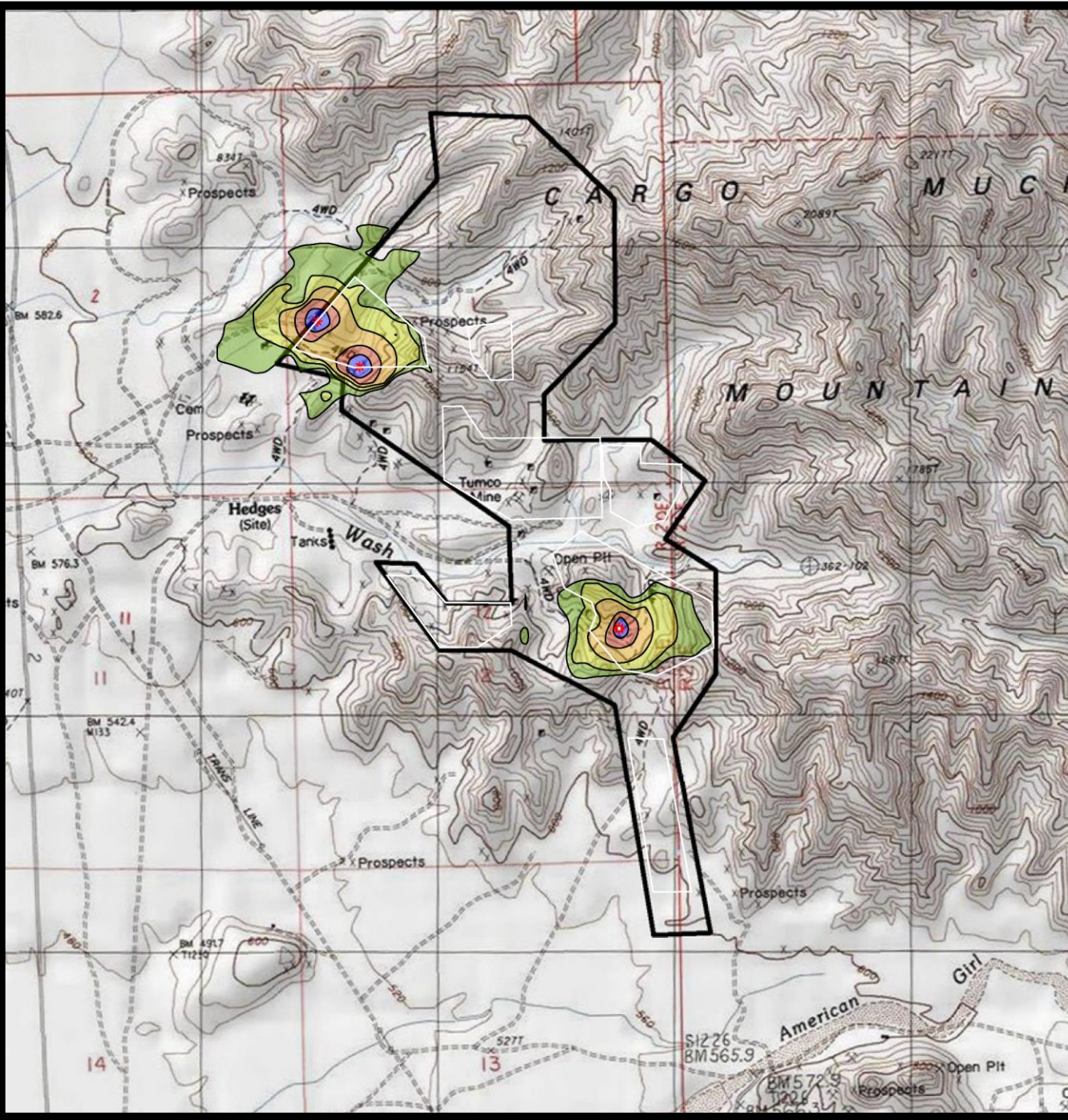


Oro Cruz Exploration Drilling

Imperial County, California

Figure 2C

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 3 and Staging Area Equipment –
Contours Down to Imperial County 45 dBA L_{eq}
Nighttime Standard

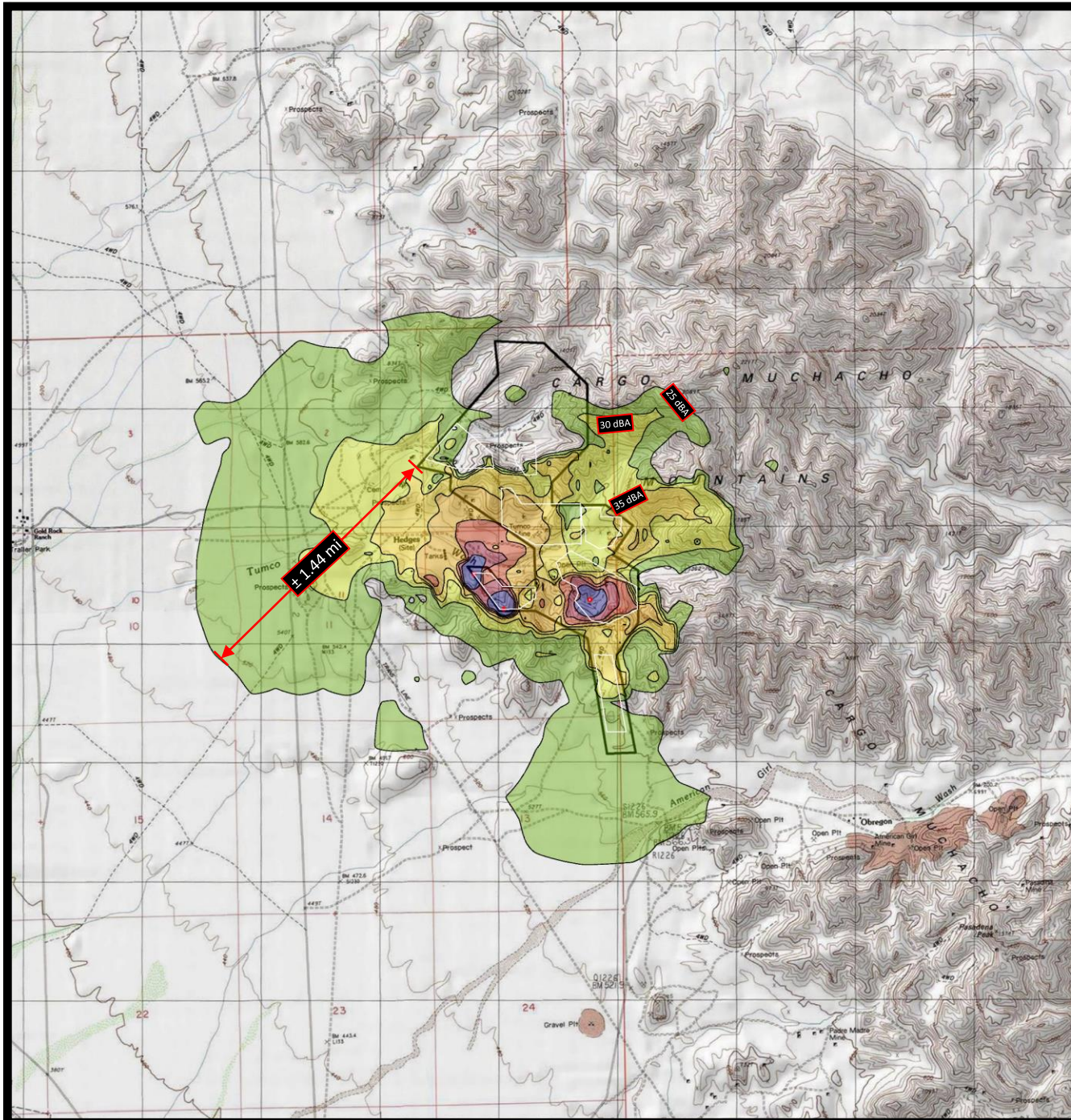


Oro Cruz Exploration Drilling

Imperial County, California

Figure 3A

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 4 and Staging Area Equipment –
Contours Down to 25 dBA



Noise Level, dB(A)

25 <	≤ 30
30 <	≤ 35
35 <	≤ 40
40 <	≤ 45
45 <	≤ 50
50 <	≤ 55

Legend

- Point Source
- Drill Areas

Scale 1:4000

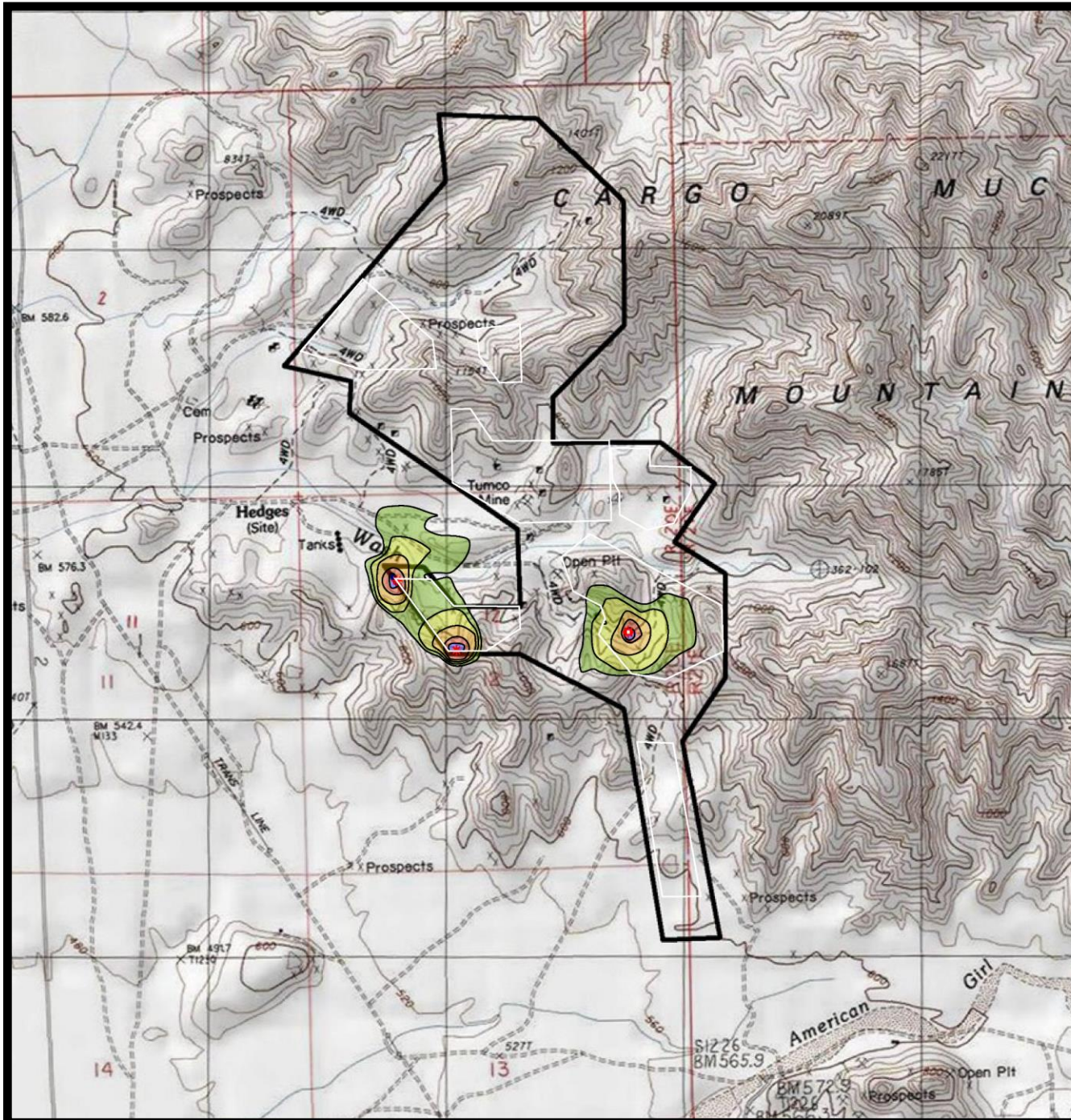


Oro Cruz Exploration Drilling

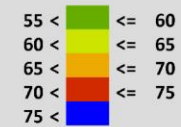
Imperial County, California

Figure 3B

Project Noise Contours (dBA L_{dn}) –
2 Drills in Area 4 and Staging Area Equipment –
Contours Down to US EPA Exterior 55 dBA L_{dn} Standard



Noise Level, dB(A)



Legend

- * Point Source
- Drill Areas

Scale 1:2000

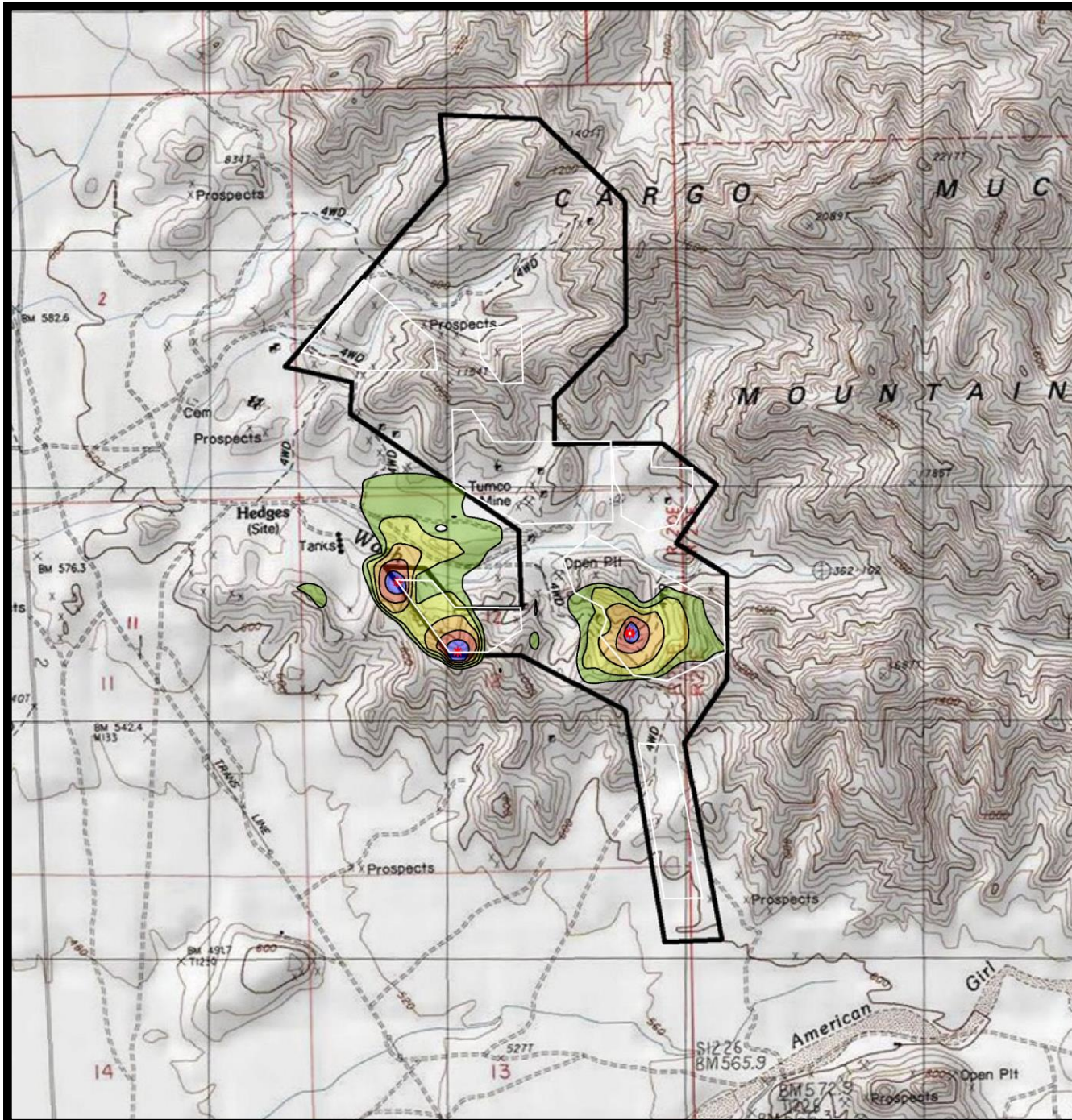


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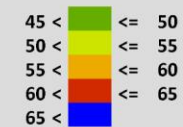
Imperial County, California

Figure 3C

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 4 and Staging Area Equipment –
Contours Down to Imperial County 45 dBA L_{eq}
Nighttime Standard



Noise Level, dB(A)



Legend

- * Point Source
- Drill Areas

Scale 1:2000

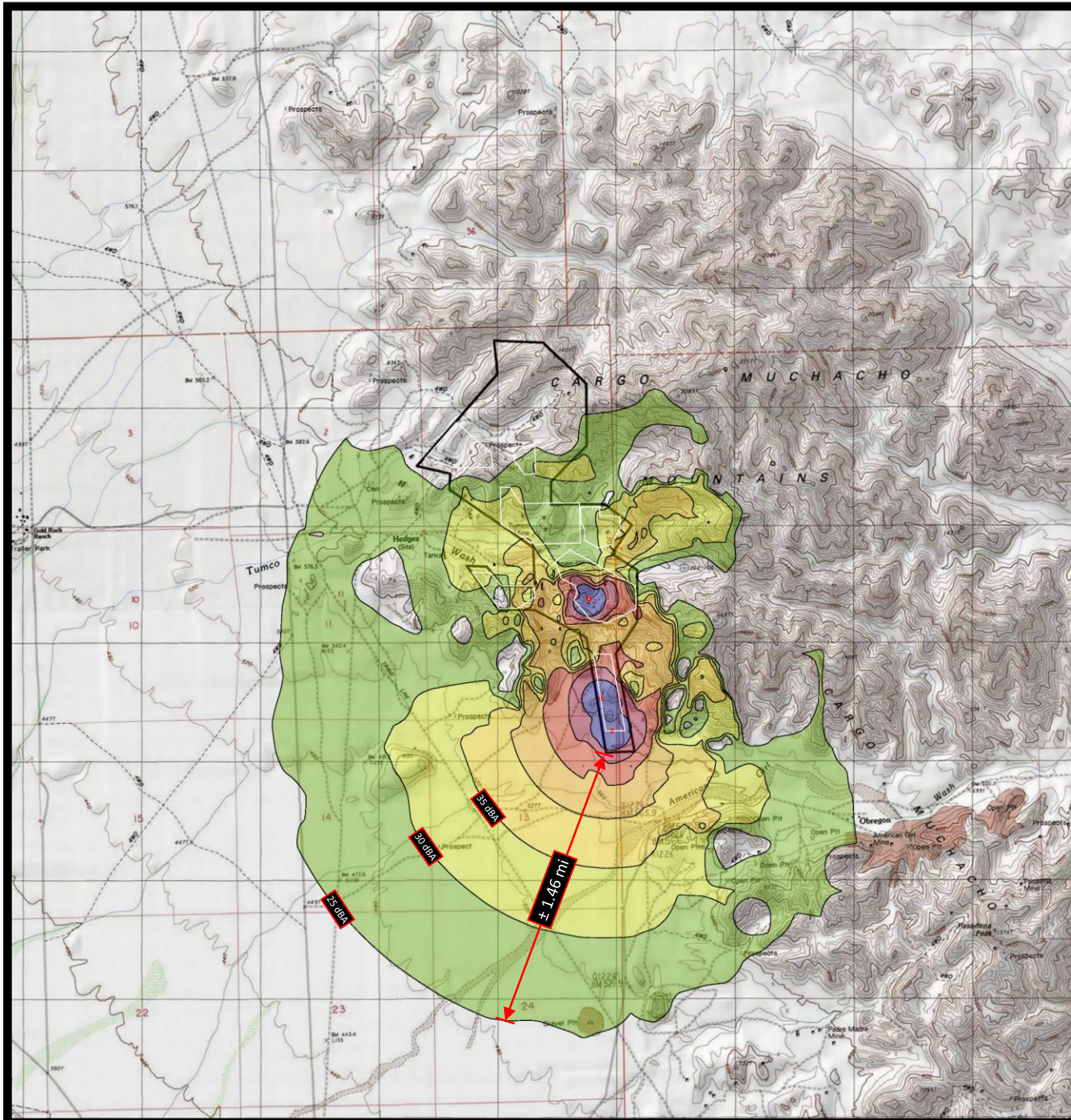


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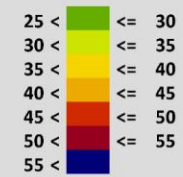
Imperial County, California

Figure 4A

Project Noise Contours (dBA L_{eq}) –
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Contours Down to 25 dBA



Noise Level, dB(A)



Legend

- Point Source
- Drill Areas

Scale 1:4000

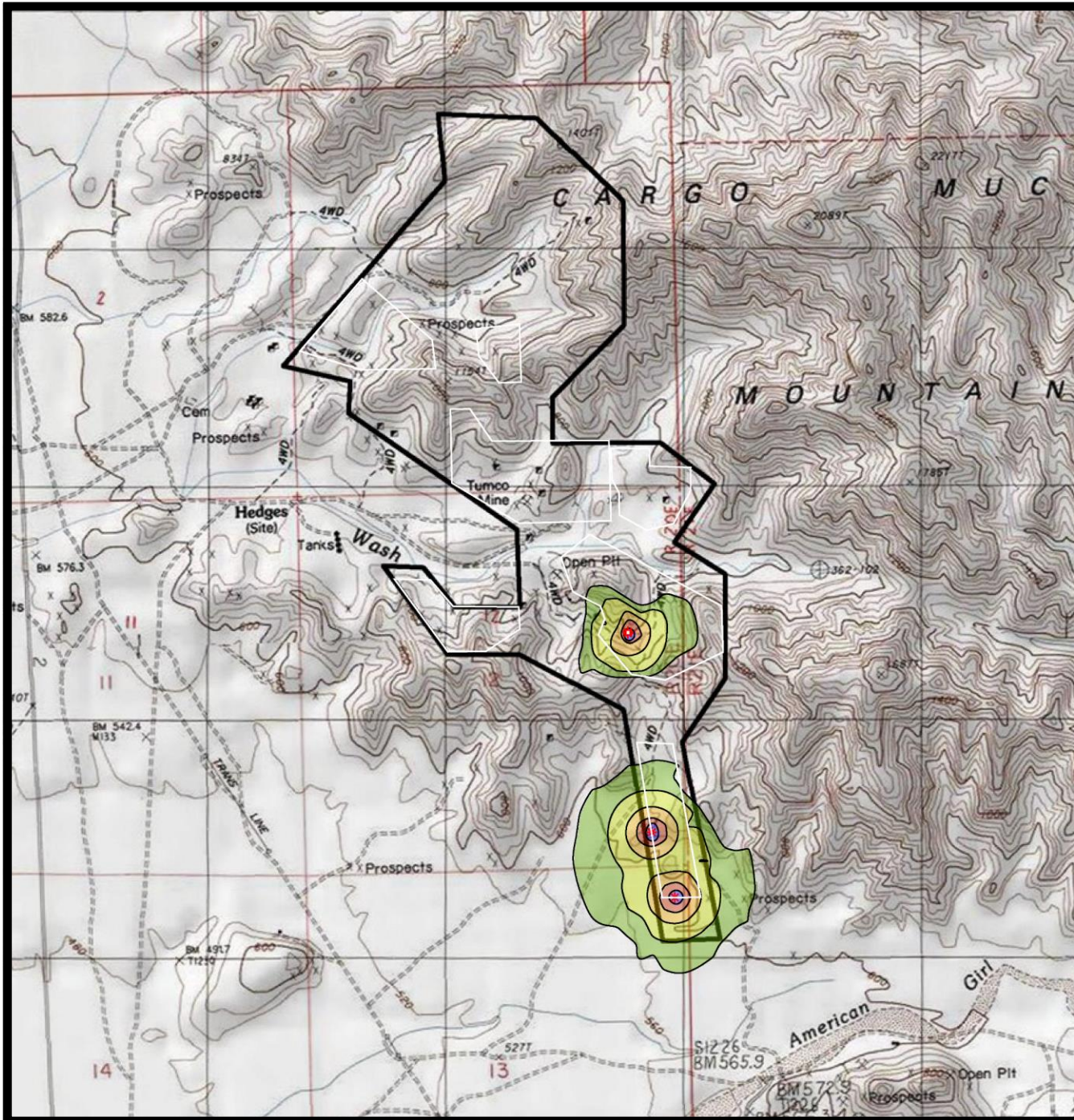


Oro Cruz Exploration Drilling

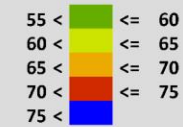
Imperial County, California

Figure 4B

Project Noise Contours (dBA L_{dn}) –
2 Drills in Area 6 and Staging Area Equipment –
Contours Down to US EPA Exterior 55 dBA L_{dn} Standard



Noise Level, dB(A)



Legend

- * Point Source
- Drill Areas

Scale 1:2000

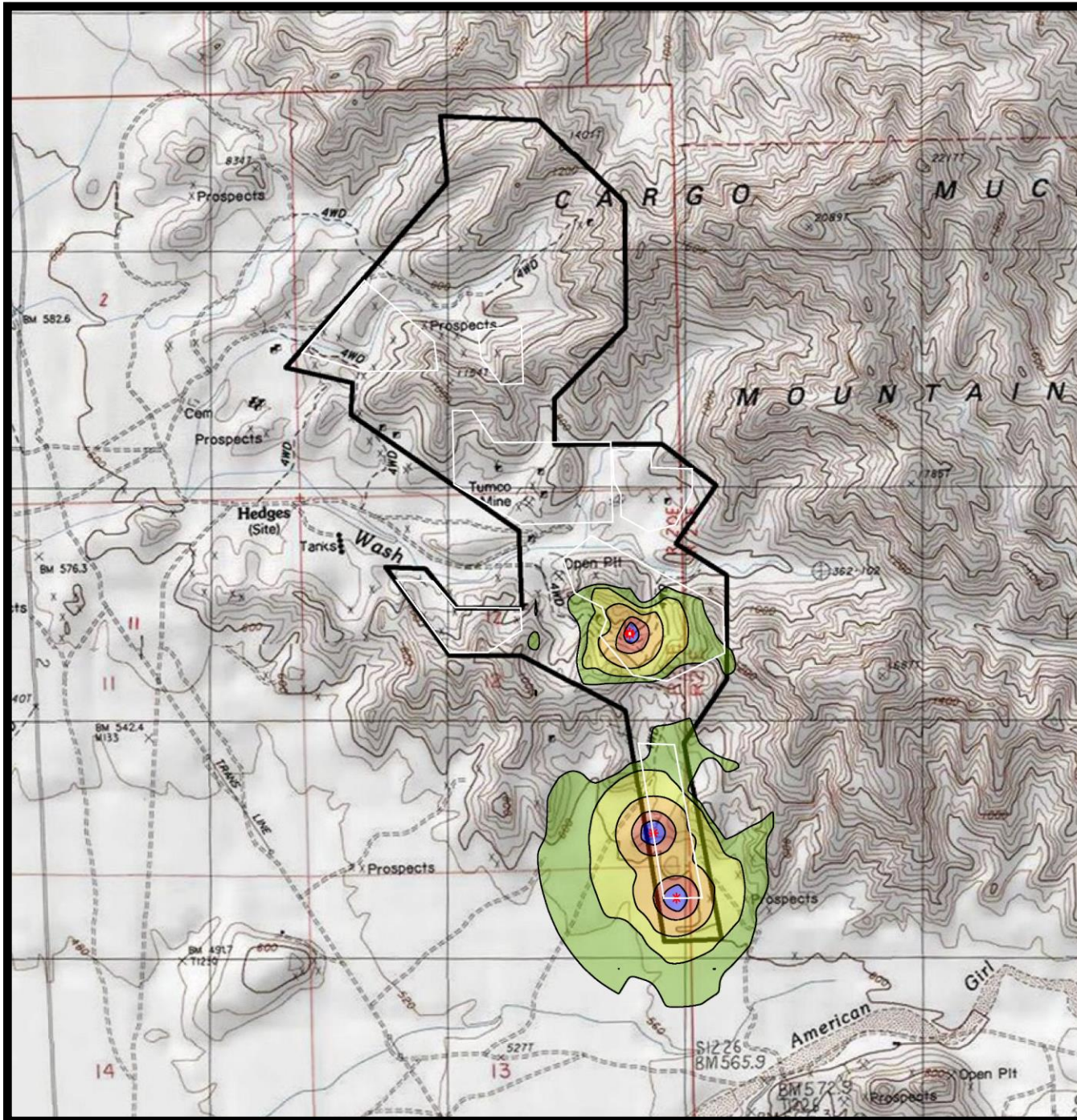


Oro Cruz Exploration Drilling

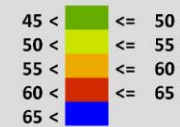
Imperial County, California

Figure 4C

Project Noise Contours (dBA L_{eq}) –
2 Drills in Area 6 and Staging Area Equipment –
Contours Down to Imperial County 45 dBA L_{eq}
Nighttime Standard



Noise Level, dB(A)



Legend

- * Point Source
- Drill Areas

Scale 1:2000





Stantec Consulting Services Inc.
1165 East Jennings Way, Suite 101
Elko, NV 89801-7977

Memorandum

To: Mayra Martinez, Bureau of Land Management
Carrie Sahagun, Bureau of Land Management
Grant Day, Bureau of Land Management

From: Shelby Hockaday, Stantec Consulting Services Inc.

Date: April 15, 2022

Project: Oro Cruz Exploration Project
Stantec Project Number 203722070

Subject: Viewshed Analysis for Indirect Visual Area of Potential Effect

This memorandum transmits the viewshed analysis results for the SMP Gold Corp.'s (SMP) Oro Cruz Exploration Project (Project).

INTRODUCTION

Stantec Consulting Services Inc. (Stantec) was contracted by SMP to conduct a viewshed analysis following conversations with the Bureau of Land Management (BLM) El Centro Field Office to determine an appropriate Indirect Visual Area of Potential Effect (Indirect Visual APE) for a cultural resources and visual resources analysis in the anticipated Environmental Assessment (EA) for the Project under the National Environmental Policy Act (NEPA). Scenic quality is a measure of the visual appeal of a parcel of land. Section 102(a)(8) of the Federal Land Policy and Management Act (FLPMA) placed an emphasis on the protection of the quality of scenic resources on public lands. Similarly, Section 101(b) of NEPA requires that measures be taken to ensure that aesthetically pleasing surroundings be retained for all Americans. Additionally, Section 106 of the National Historic Preservation Act (NHPA) of 1966 (54 United States Code 300101 et seq.), guides that an Indirect Visual APE should be delineated and should include all locations from which elements of the proposed Project may cause adverse visible effects to cultural or historic properties.

The Indirect Visual APE developed for the Project is anticipated to be included in the pending Class III Inventory report that is currently being prepared as required under Section 106 of the NHPA. The Indirect Visual APE would also be used for analysis of cultural and visual resources in the respective Affected Environment and Environmental Consequences sections of the anticipated EA.

The Project area would include a total of approximately 626 acres on public lands administered by the BLM El Centro Field Office with anticipated total surface disturbance from exploratory drilling activities of up to 20.54 acres. The Project proposes up to 65 temporary drilling locations within the Project area. The Project would have a life expectancy of up to two years, with drilling occurring over up to two weeks at each of the 65 proposed drill sites prior to moving to a new drill site location. There would only be two drill rigs in operation at a time within the Project area, that would operate on a 12- or 24-hour-per-day schedule, with potential for both drill rigs operating within one Drill Area (SMP, 2021).

VISUAL RESOURCES MANAGEMENT DESIGNATION

According to the BLM H-1601-1 Land Use Planning Handbook, the BLM manages resource uses and management activities consistent with the VRM objectives established in the land use plan (BLM, 2005) in compliance with the NEPA and FLPMA objectives for scenic quality. The VRM objectives designate classes for BLM-administered lands in order to identify and evaluate scenic values to determine the appropriate levels of management during land use planning. The BLM identifies four VRM Classes (I through IV) with specific management descriptions for each class. The Desert Renewable Energy Conservation Plan Proposed Land Use Plan Amendment and Final Environmental Impact Statement (BLM, 2015) assigned VRM classes ranging from Class I to Class IV to all BLM lands in the planning area based on BLM H-1601-1. The majority of the Project area falls within VRM Class III, with a small southern portion of Drill Area 6 being VRM Class IV (**Figure 1**). VRM Class III allows for moderate changes to the characteristic landscape to partially retain the existing character of the landscape, while VRM Class IV allows for major changes to the characteristic landscape to provide for management activities that require such.

METHODOLOGY

Stantec conducted the viewshed analysis through the use of topographic maps, aerial imagery, the geographic information system (GIS) ArcGIS software, publicly available Digital Elevation Model surface data, and the proposed Project's layout. The viewshed analysis was run using the ArcGIS Viewshed Tool from a total of seven points derived from the central locations of the Project's seven proposed drill areas (**Figure 1**). The analysis incorporated the views 40 feet high from the drill area centroids, which is the tallest height of drilling equipment proposed for use at the Project, to determine the overall visibility of the surrounding area where alternations in the character or use of historic properties may occur, facing all cardinal directions (north, south, east, and west).

Stantec created a six-mile buffer around the Project area to determine the visibility within such area where cultural and/or visual resources may be impacted by structures in the drill areas, based on the areas determined to be visible from all directions from the seven drill area centroids. Stantec then created digital elevation profiles in ArcGIS Pro at a distance of six miles utilizing one to two view directions from each drill area centroid, depending on the topography and the potential visibility. Stantec interpolated topography along the view directions using a 10-meter Digital Elevation Model (DEM) as the elevation grid to create a three-dimensional line output, which allowed for development of DEM elevation profiles, shown in **Attachment 1**.

The viewshed results from the elevation profiles were then used to delineate the Indirect Visual APE based on the potential visibility of the Project potentially indirectly affecting cultural/historic properties of concern. The proposed Indirect Visual APE took into account the scale and nature of the undertaking relative to cultural/historic properties of concern and accounted for site-specific variables such as topography and height of the equipment proposed for the Project.

RESULTS OF THE VIEWSHED ANALYSIS

The elevation profiles included in **Attachment 1** show the cross sections of topography from each drill area centroid from one to two directions, depending on topography and potential visibility in the area. Elevations are shown along the y-axis of the profile charts, wherein the height of the tallest proposed drilling equipment, 40 feet, may appear as a structure up to 40 feet above the surface elevation shown. The majority of the drilling areas would not be visible to the casual viewer; however, the southwestern view from Drill Area 2, the view from Drill Area 3, the northwestern view from Drill Area 4, the northwestern view from Drill Area 5, and the southwestern view from Drill Area 6 showed the potential for a structure 40 feet high to be visible from the base elevation.

Stantec used Google Earth imagery to analyze the three-dimensional view one mile away from the drill areas where the elevation profiles showed potential visibility. These images are included in **Attachment 2**. Based on the results of the viewshed analysis, the elevation profiles, and the desktop analysis of the aerial imagery ground views of the potentially visible drill areas, a 40-foot drill rig line against the existing landscape would have weak degree of contrast to form, color, line and texture elements of the existing background and would not be noticeable to the casual viewer. Based on BLM Manual 8400-Visual Resource Management, the drill pad area would be in the background distance zone where the texture and form of individual elements are no longer readily apparent in the landscape, appearing only in patterns or outlines (BLM, 1984). The proposed drill rigs may add additional form and lines in the background zone, but they would not result in a strong degree of contrast and would likely be a weak, indistinct line element in the viewshed. Impacts to the existing landscape and scenic quality as a result of exploratory drilling activities would be temporary in nature and would not be stationary throughout the one-to-two-year life of the Project or following reclamation given the nature of the proposed approximately two-week drilling campaign at each drill site.

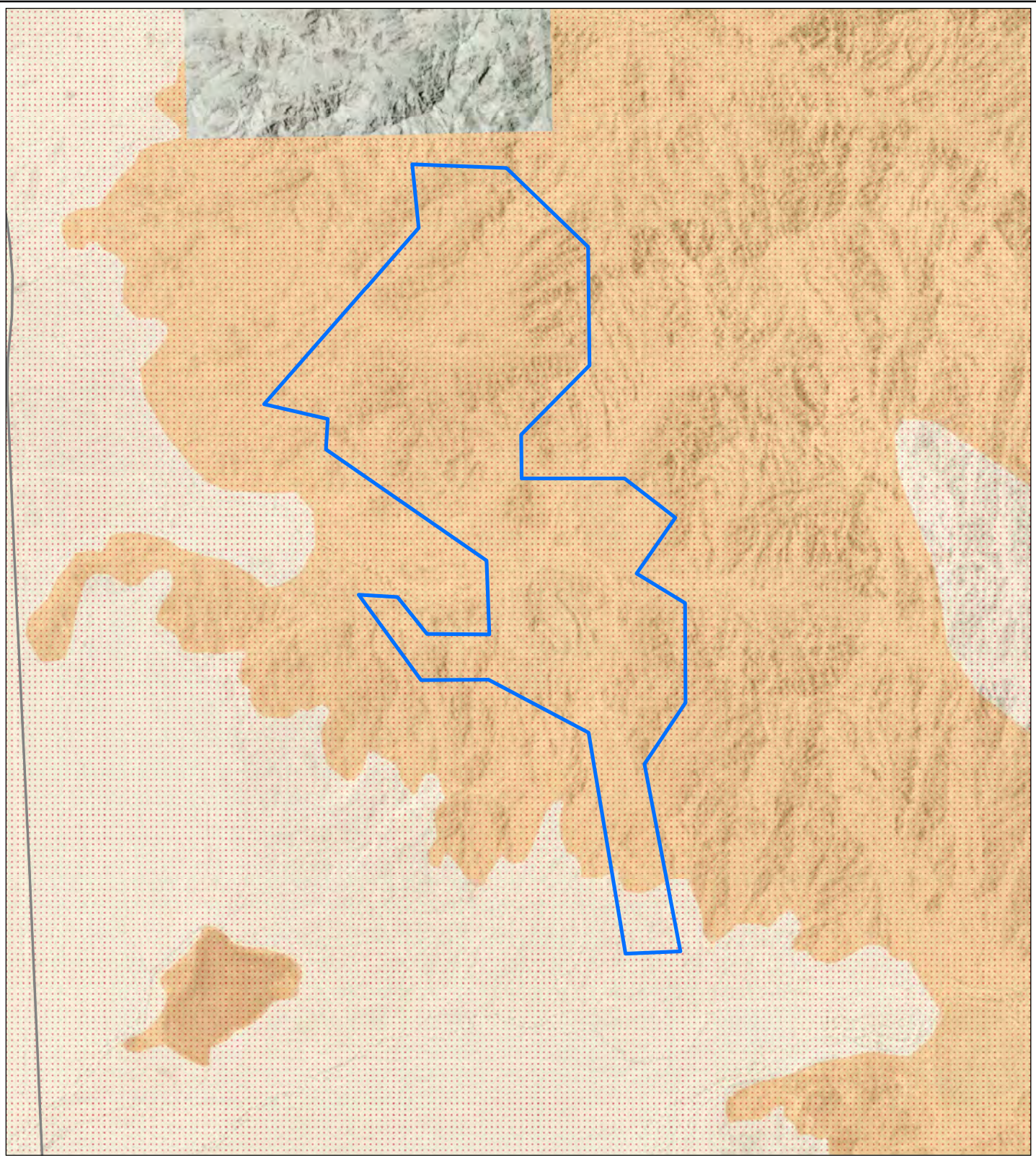
The Indirect Visual APE is shown on **Figure 2**, which incorporates the viewshed within a one-mile buffer of the Project area. The one-mile buffer was determined to be an appropriate distance to assess indirect visual impacts to cultural and historic properties of concern in the area, including the Tumco Historic Mine (**Figure 2**), which has been identified as a cultural property of concern in relation to potential Project impacts. The Indirect Visual APE will also be used as the visual resources area of analysis in the Project's anticipated EA.

REFERENCES


- Bureau of Land Management (BLM). 1984. Manual 8400-Visual Resource Management. United States Department of the Interior, Bureau of Land Management, Washington, D.C. April 5, 1984.
- Bureau of Land Management (BLM). 2005. Manual H-1601-1 Land Use Planning Handbook. United States Department of the Interior, Bureau of Land Management. March 11, 2005.
- Bureau of Land Management (BLM). 2015. Desert Renewable Energy Conservation Plan Proposed Land Use Plan Amendment and Final Environmental Impact Statement. October 2015. Available at: <https://eplanning.blm.gov/eplanning-ui/project/66459/570>.
- SMP Gold Corp. (SMP). 2021. Existing Oro Cruz Pit Area Exploration Plan of Operations. Submitted to the Bureau of Land Management, El Centro Field Office September 2020. BLM Case File Number CACA-059124. Revised December 2020. Revised August 2021. Revised September 2021. Revised October 2021.

FIGURES


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Legend

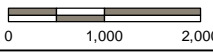
 Oro Cruz Plan Boundary

VRI Class Code

 VRI Class III

 VRI Class IV



Stantec


 Feet
 0 1,000 2,000

1 in = 2,000 feet

Imperial County, CA
NAD 1983 UTM Zone 11N

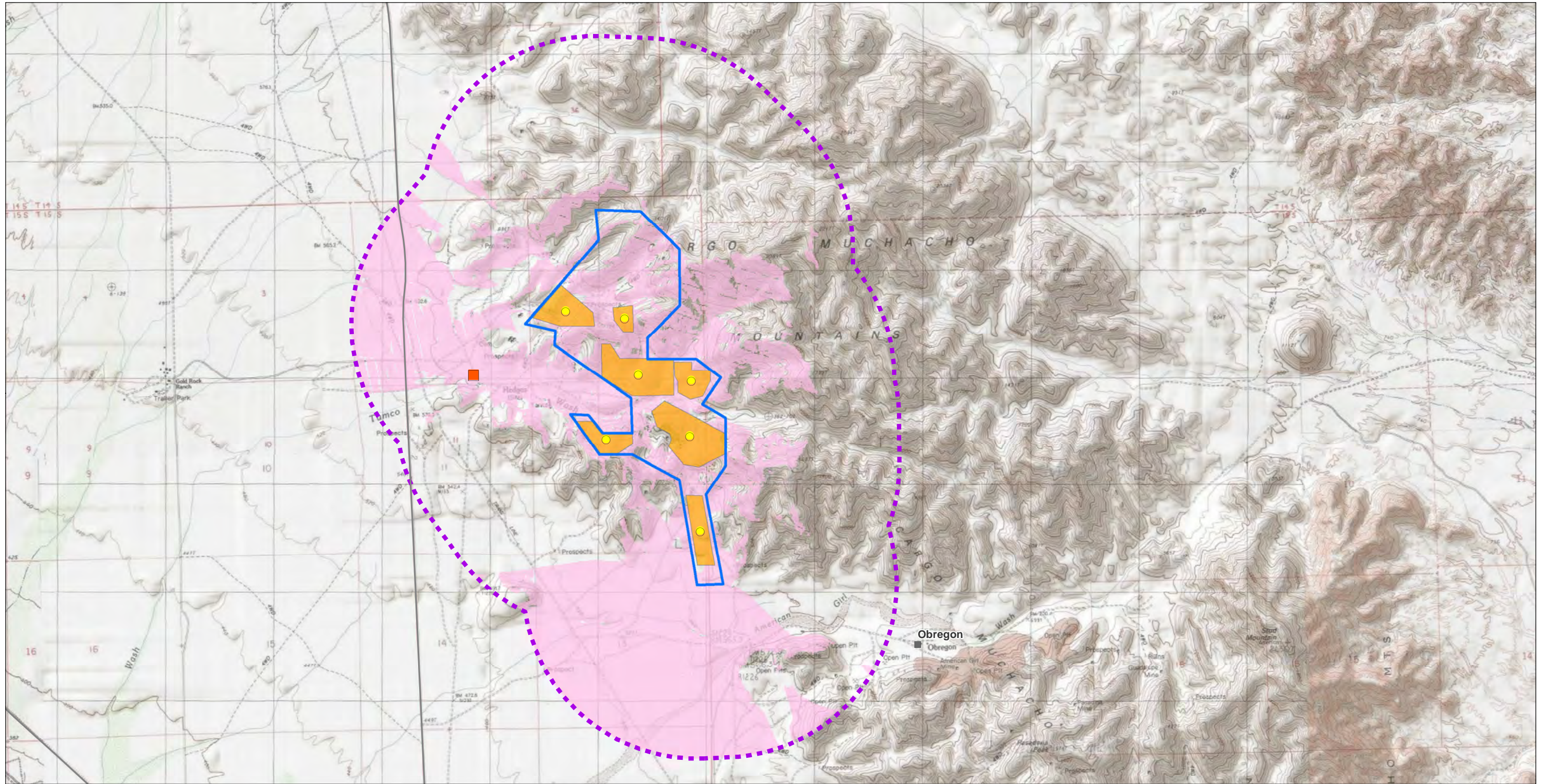
DRAWN BY: CJ	1ST REVIEW: JT	2ND REVIEW: JL
DATE: 3/3/2022		PROJECT NO: 203722070

SMP GOLD CORP.
ORO CRUZ MINE

Figure 1
VRM Classes Within
the Project Area

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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- Legend**
- Drill Hole Area Centroids
 - Drill Hole Areas
 - 1-Mile Buffer
 - Tumco Historic Mine
 - Oro Cruz Plan Boundary
 - Indirect Visual APE

Imperial County, CA
NAD 1983 UTM Zone 11N

Stantec

0 1,500 3,000 Feet

1 in = 3,000 feet

SMP GOLD CORP.
ORO CRUZ MINE

DRAWN BY: CJ 1ST REVIEW: BT 2ND REVIEW: SH

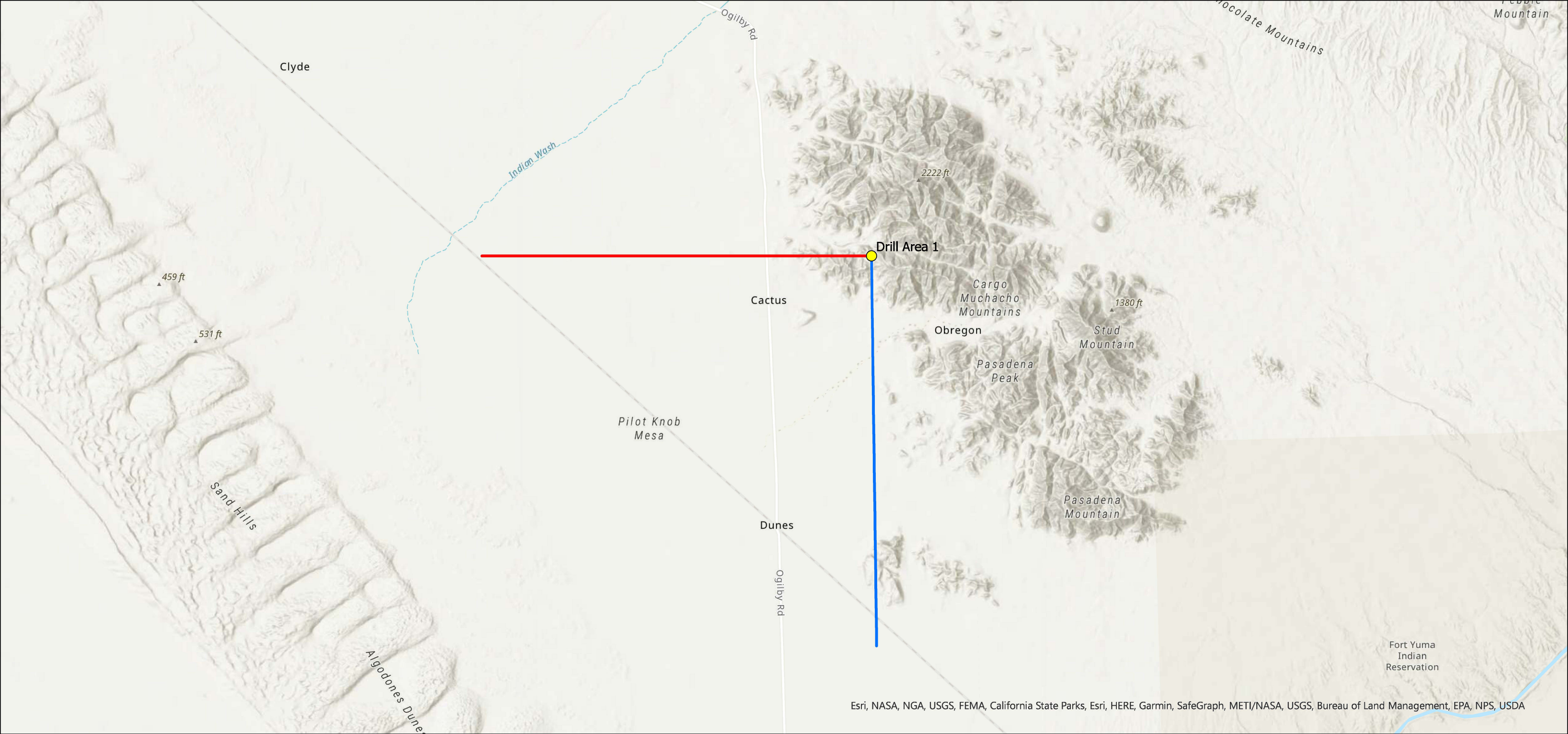
DATE: 3/3/2022 PROJECT NO: 203722070

Figure 2
Viewshed from All Drill Areas

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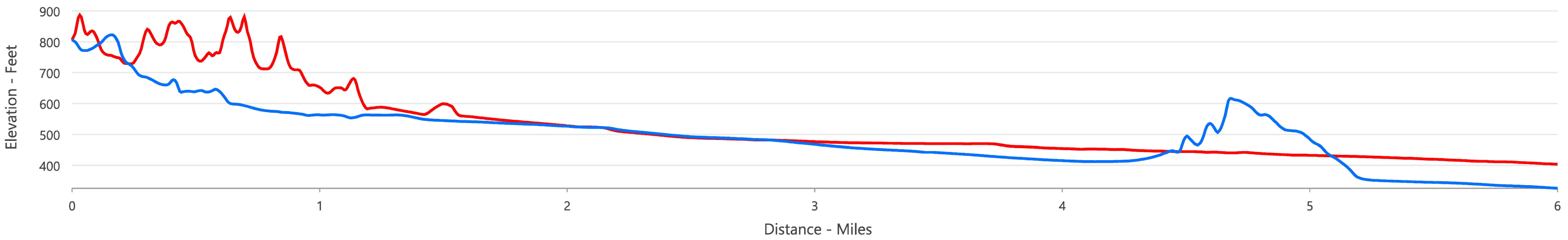
Service Layer Credits: Copyright © 2013 National Geographic Society, iCloud, Microsoft, Oracle, Esri, Garmin, USGS, NPS

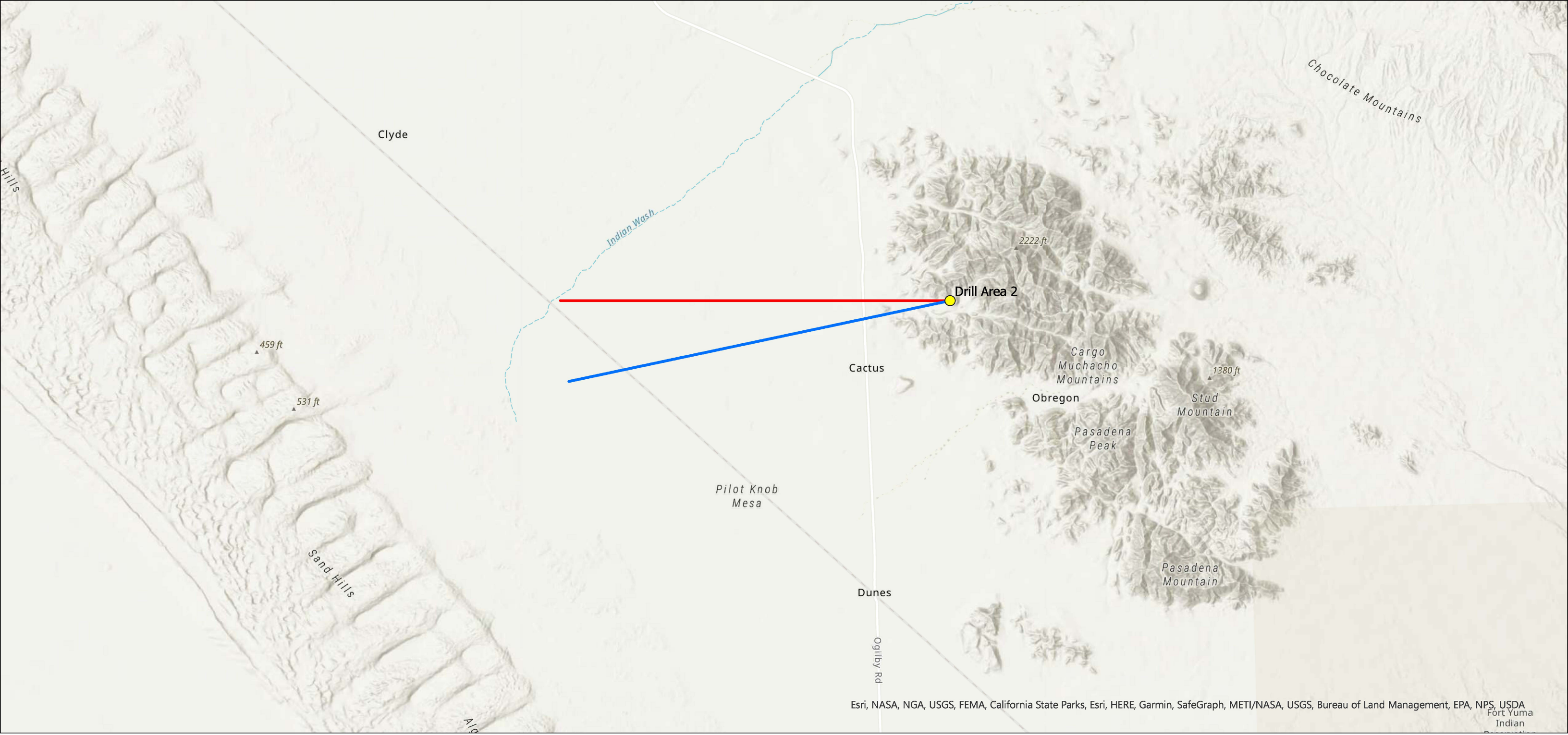
ATTACHMENT 1



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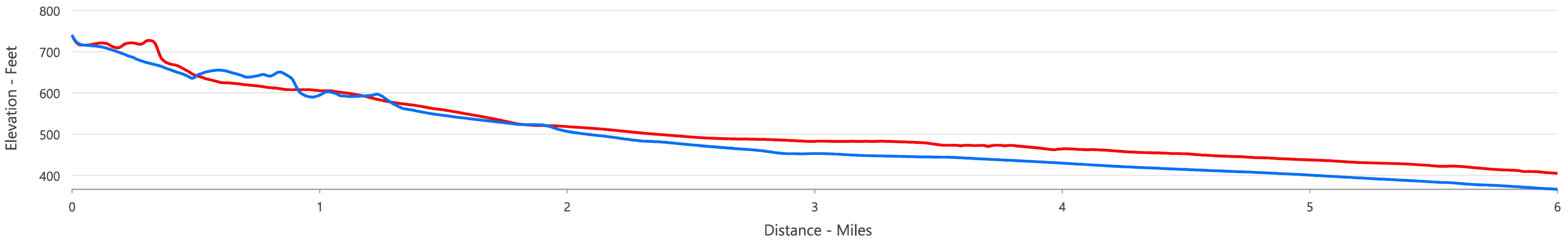
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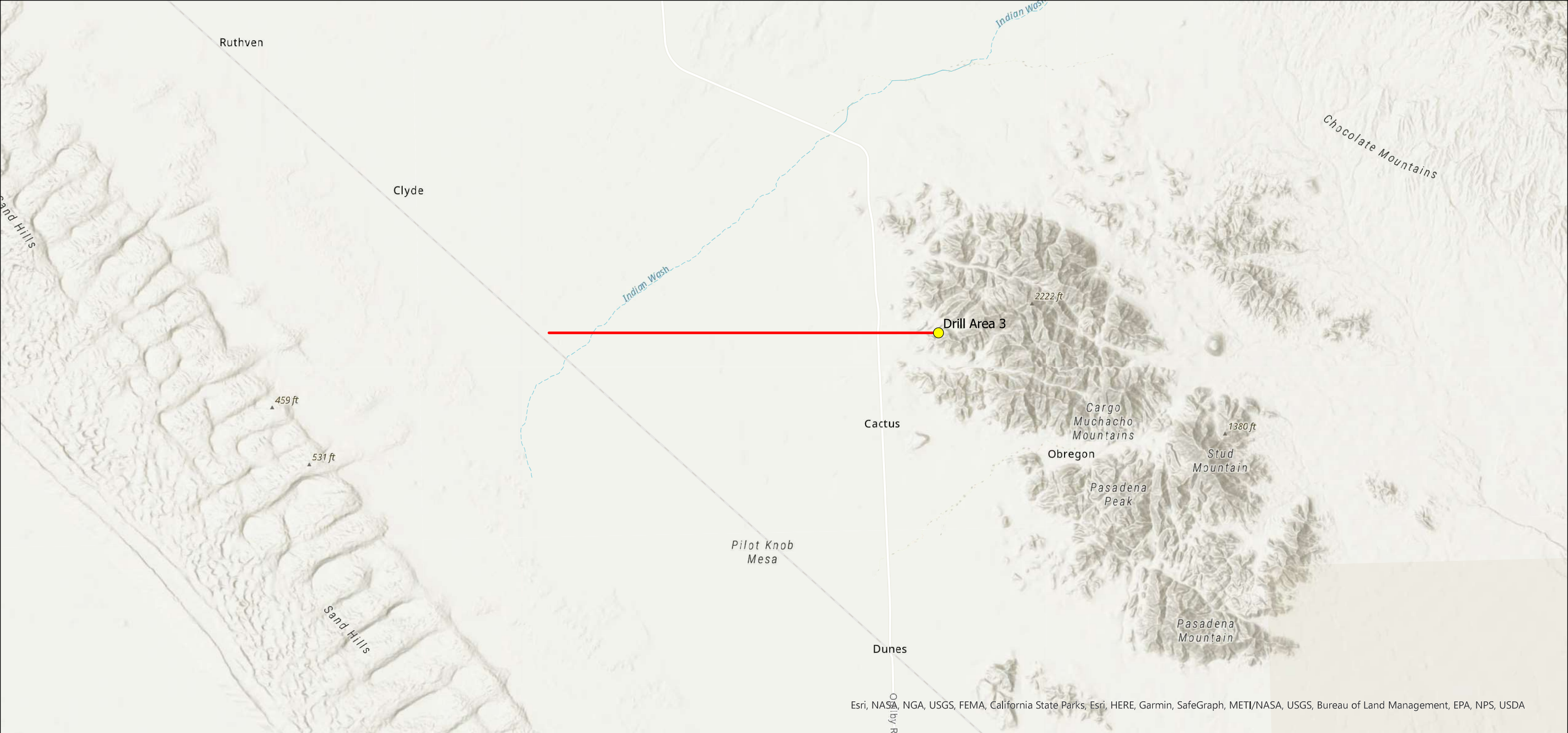




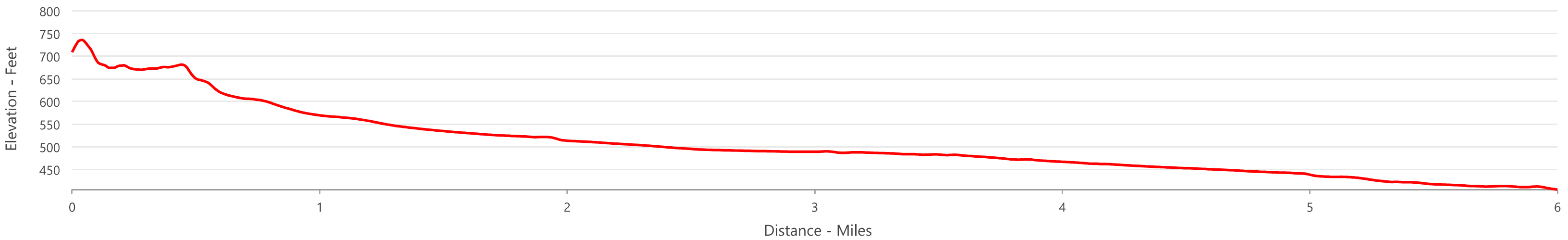
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 Fort Yuma
 Indian

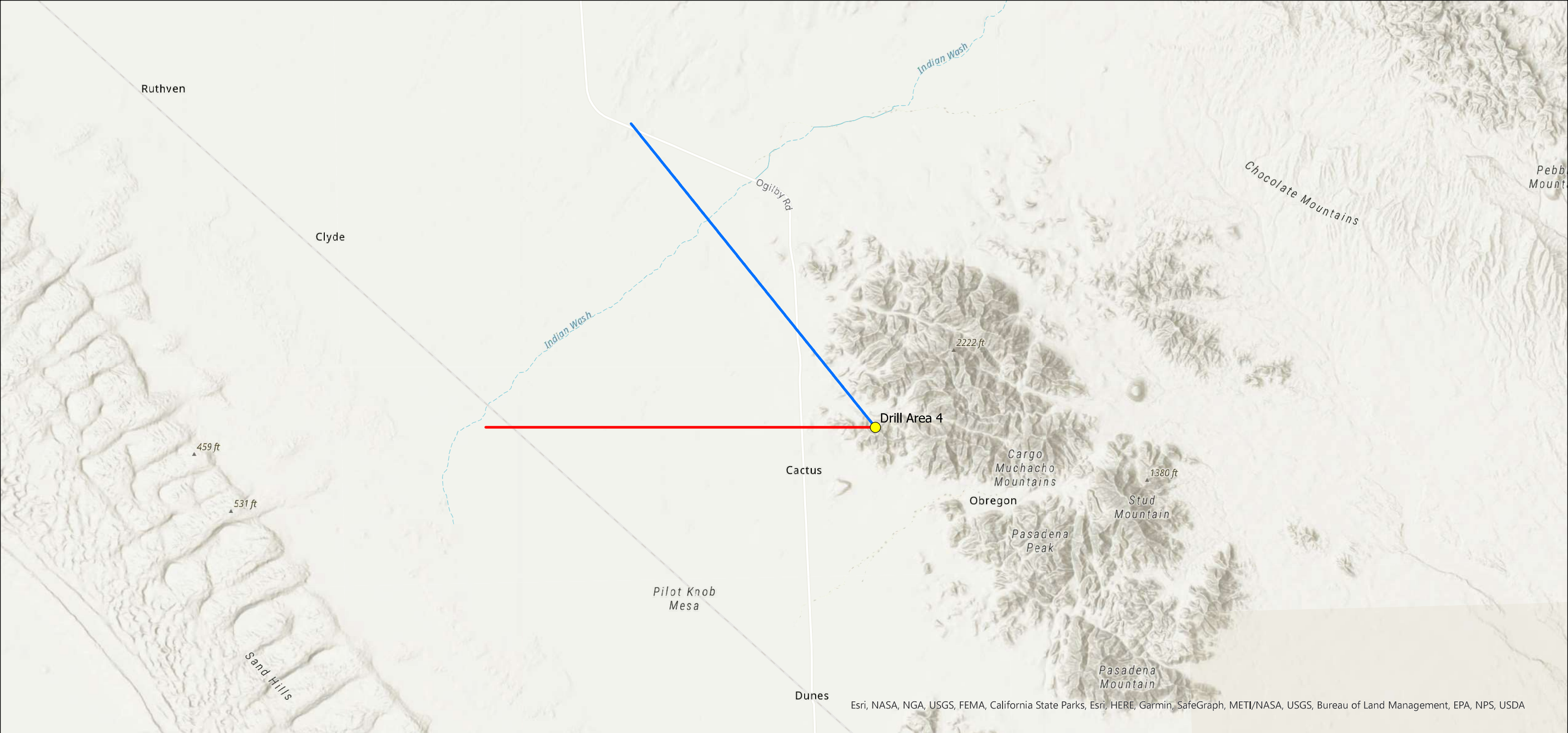
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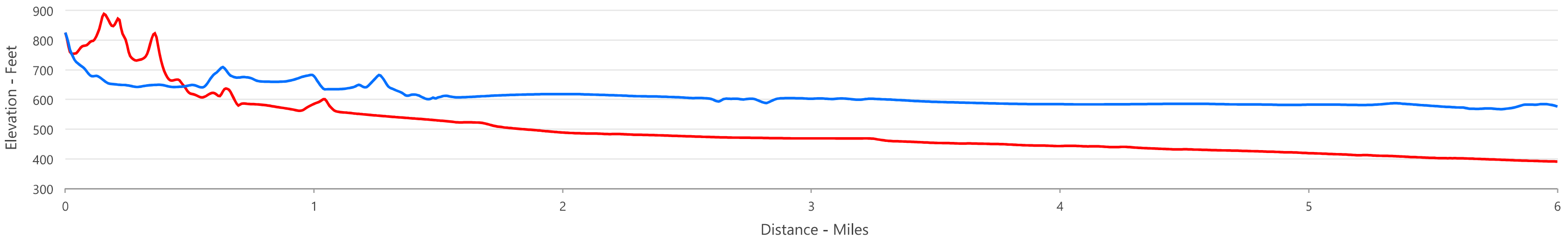
Drill Area 3

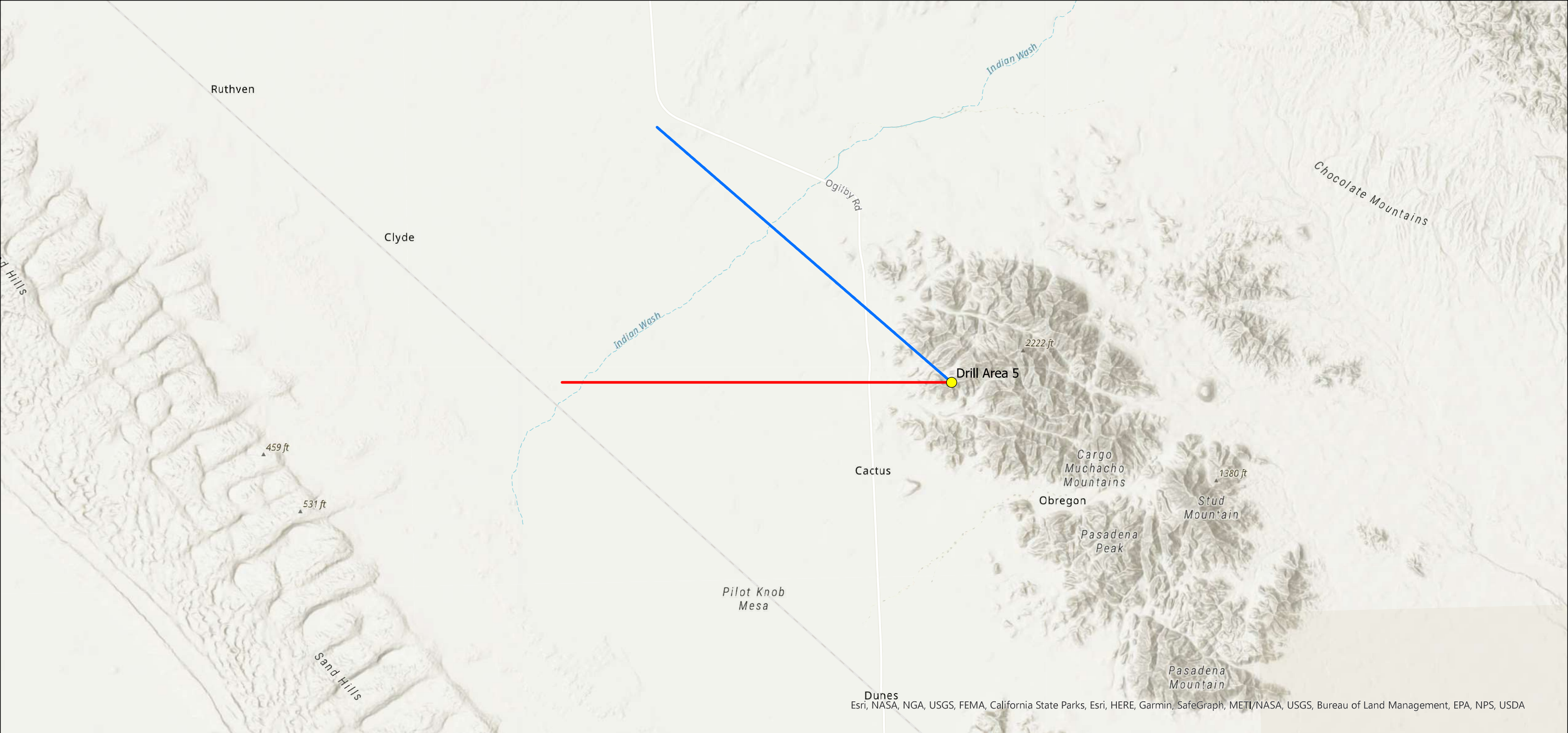




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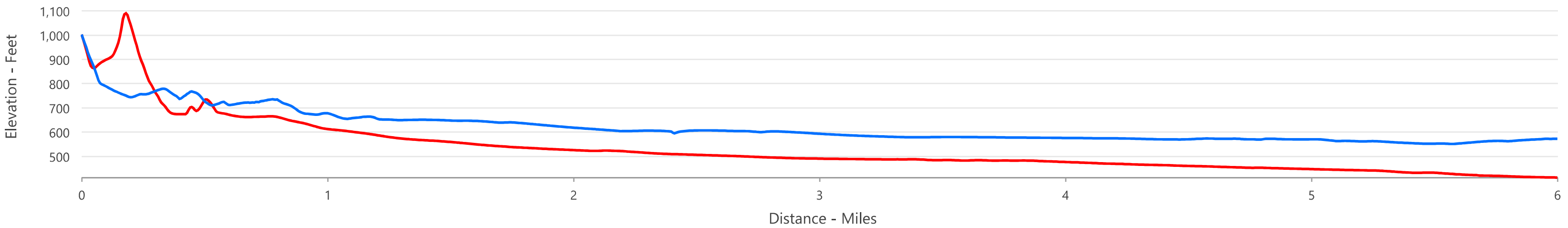
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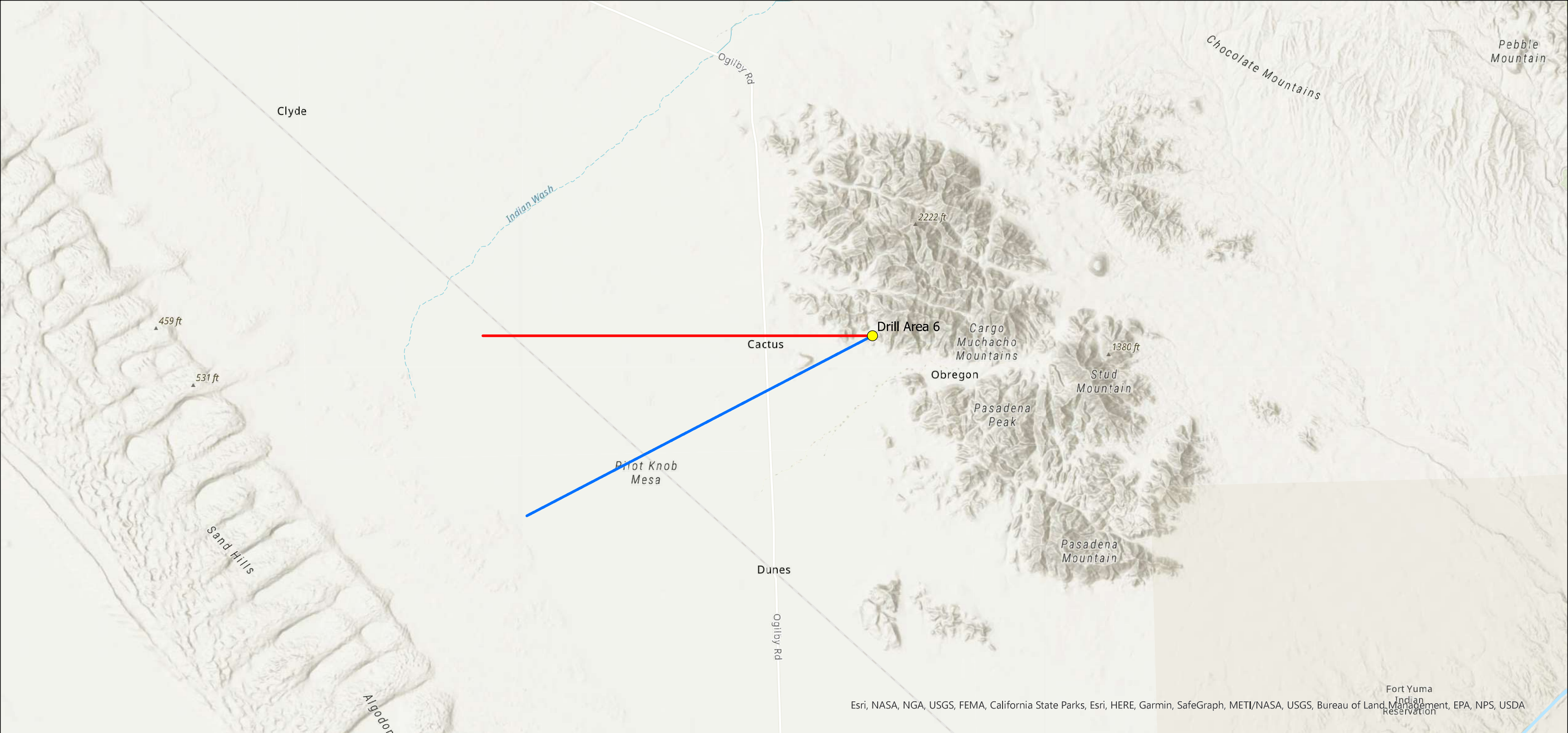




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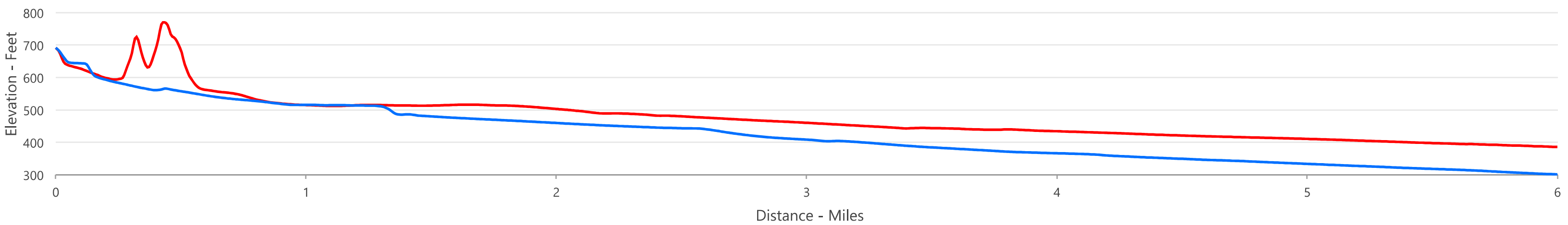
Drill Area 5

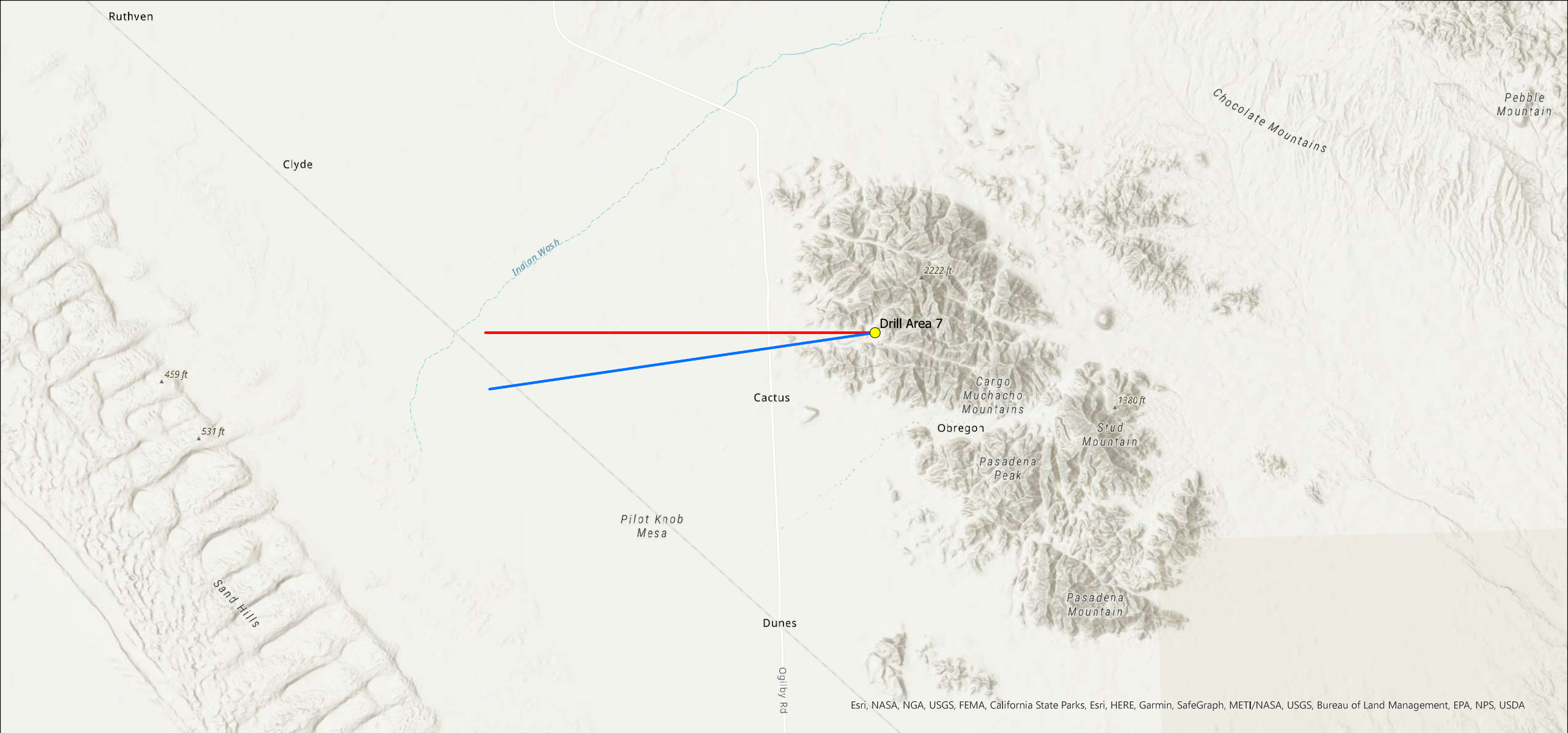




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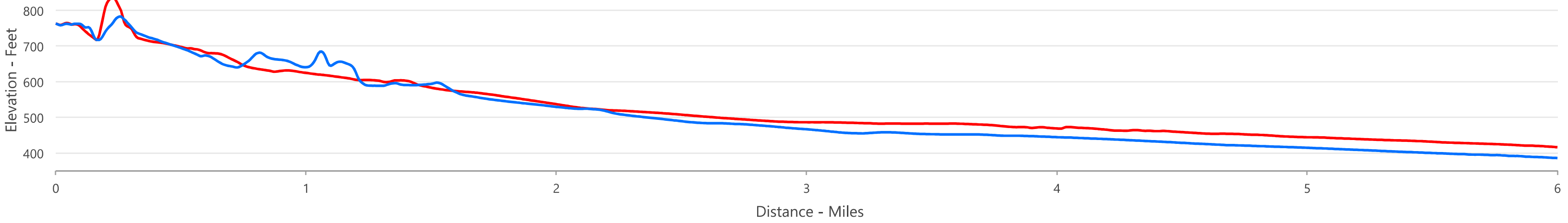
Drill Area 6





Esri, NASA, NGA, USGS, FEMA, California State Parks, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Drill Area 7



ATTACHMENT 2

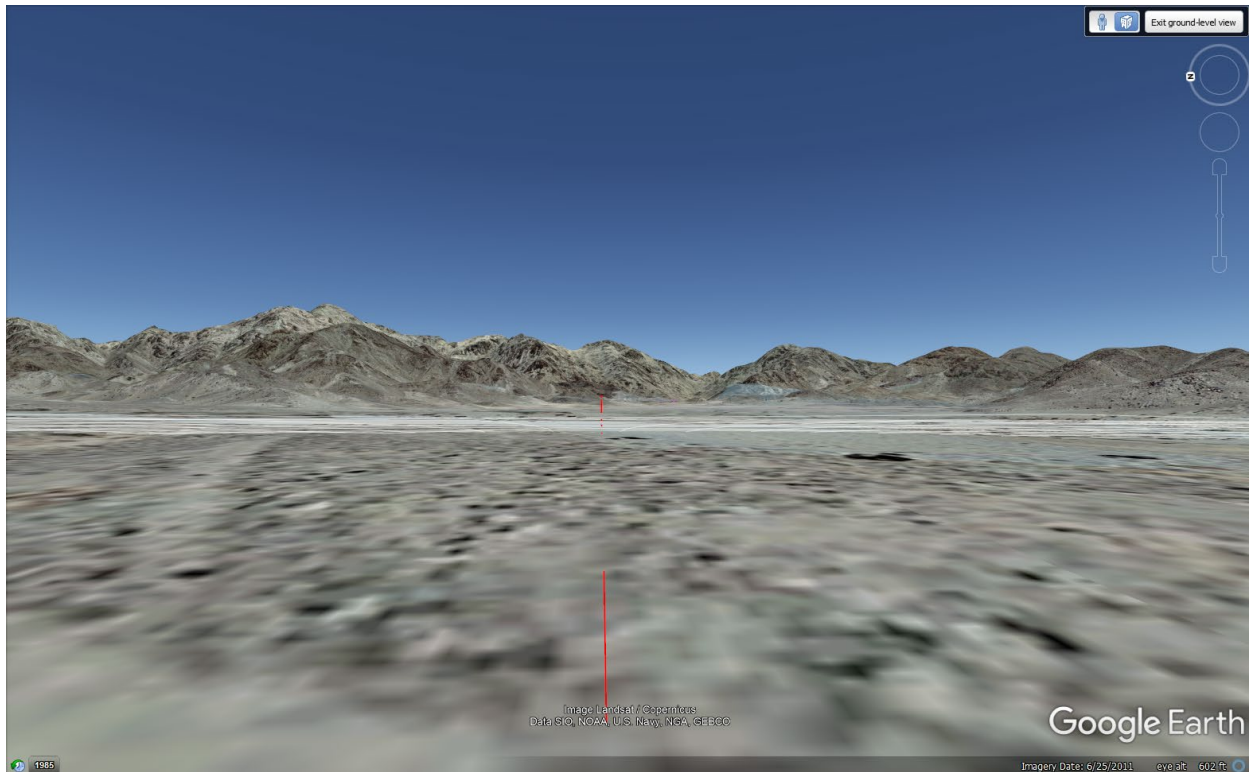
Attachment 2: Three-Dimensional Photos of Potentially Visible Drill Areas

Drill Area 2..... 2
Drill Area 3..... 2
Drill Area 4..... 3
Drill Area 5..... 3
Drill Area 6..... 4

Photo Legend

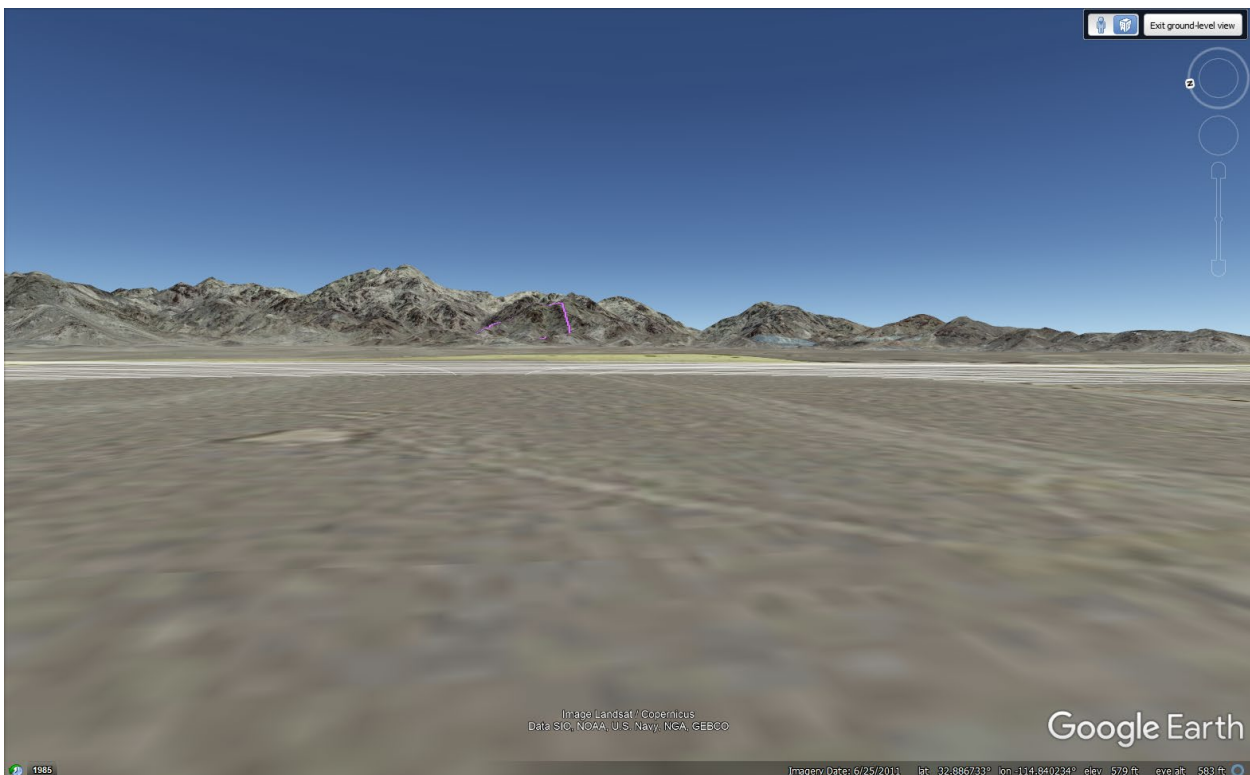
Red, straight lines visible on the photos that follow represent the viewing line facing the Drill Areas from the direction in the elevation profiles noted in the photo captions. These lines are not visible in all photos due to variations in satellite imagery and topography of the area which may cut off the line layer used in Google Earth to capture these photos.

Purple, uneven lines visible on the photos that follow represent the portions of the Drill Area boundaries that are visible from the viewing point facing the Drill Areas. The Drill Area boundaries are not visible in all photos due to variations in the topography that exist in comparison with the Drill Area boundary layer used in Google Earth to capture these photos.



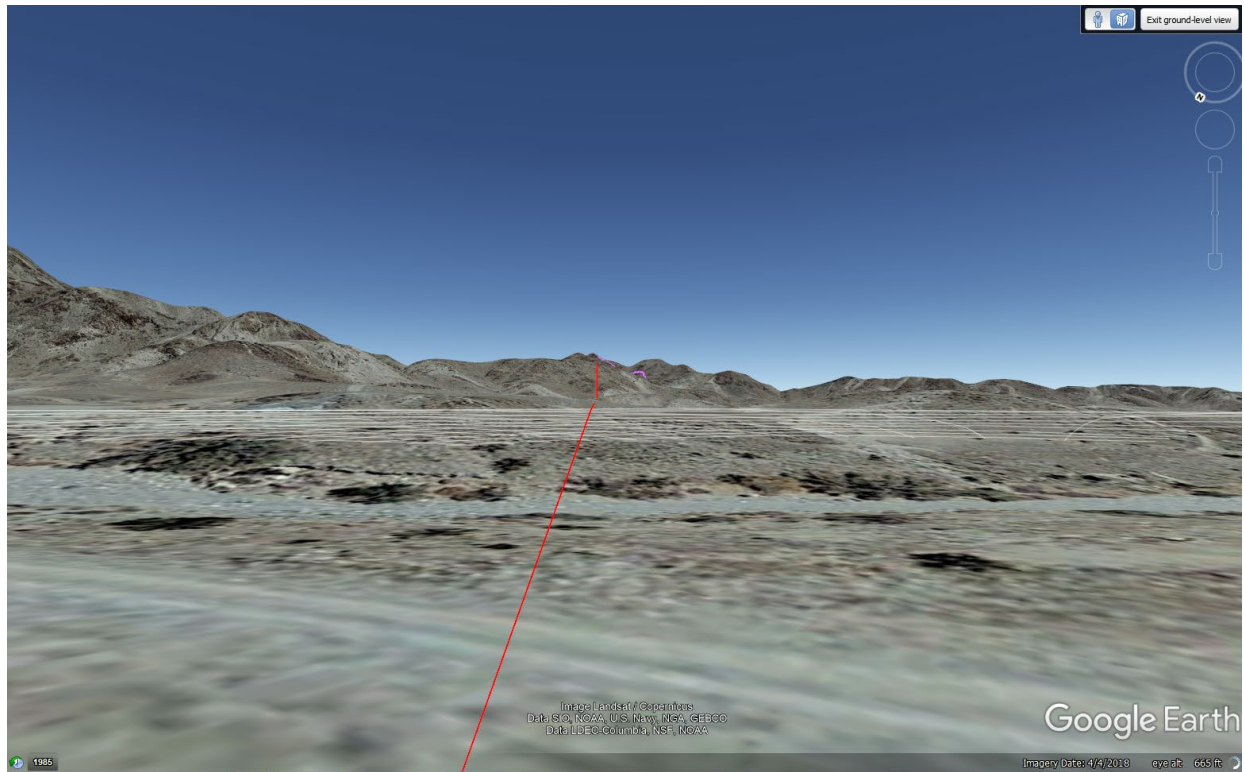
Drill Area 2

View from the southwest (blue line of the elevation profile in Attachment 1)



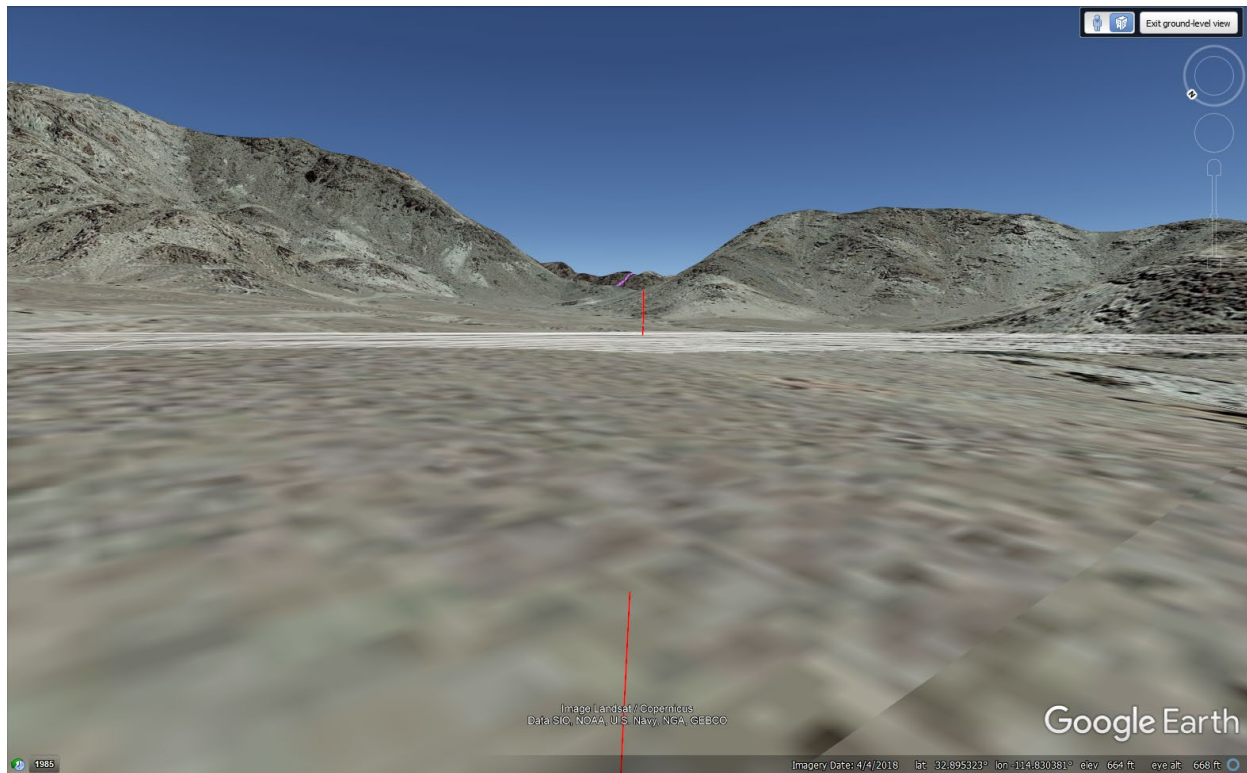
Drill Area 3

View from the west (red line of the elevation profile in Attachment 1)



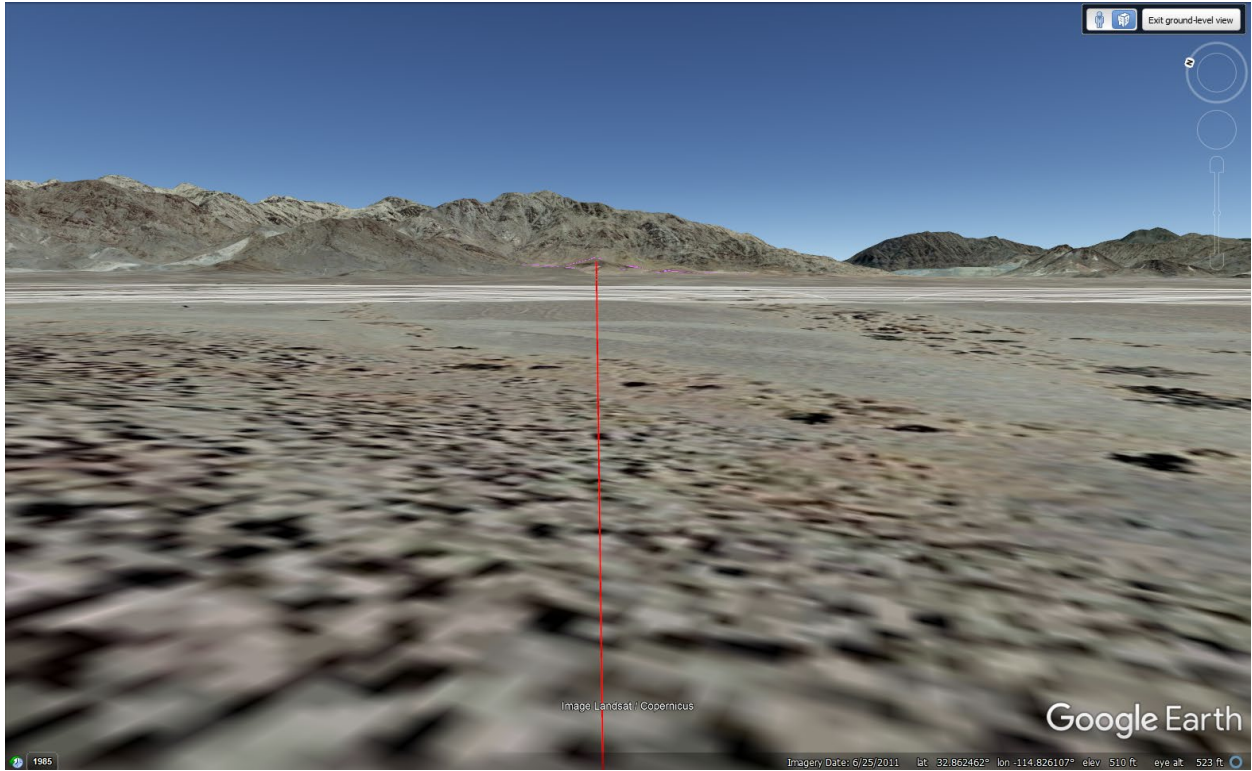
Drill Area 4

View from the northwest (blue line of the elevation profile in Attachment 1)



Drill Area 5

View from the northwest (blue line of the elevation profile in Attachment 1)



Drill Area 6

View from the southwest (blue line of the elevation profile in Attachment 1)

**BIOLOGICAL RESOURCE TECHNICAL REPORT
AND ASSESSMENT
ORO CRUZ EXPLORATION PROJECT
SMP Gold Corp.**

Prepared for:

Bureau of Land Management, El Centro Field Office

1661 S 4th St.

El Centro, CA 92243

Project Number: 2072.03

June 30, 2021




WestLand Resources

WestLand Resources, Inc. • 4001 E. Paradise Falls Drive • Tucson, Arizona 85712 • 520•206•9585

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- Appendix B. IPaC Screening
- Appendix C. BLM El Centro Sensitive Species
- Appendix D. California Department of Fish and Wildlife RareFind Report
- Appendix E. Photo pages
- Appendix F. BLM Sensitive Species “None” List

EXECUTIVE SUMMARY

Southern Empire Resources Corp. (SMP) is proposing mineral exploration activities, the Oro Cruz Pit Area Exploration Project, on lands managed by the Bureau of Land Management (BLM) in the Cargo Muchacho Mountains of Imperial County in southeastern California (the Project) (**Figures 1 and 2**). The BLM Exploration Plan of Operations (EPO) consists of an approximately 600-acre area (**Figure 2**). Within the EPO the Project Area consists of seven drill pads and associated access roads, totaling 21.1 acres of surface disturbance (**Figure 2**). The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

WestLand Resources, Inc. (WestLand) was retained to complete a combined BLM Biological Resource Technical Report (BRTR) to support environmental review of the Project by the BLM and a Biological Resource Assessment (BRA) to support environmental review by Imperial County under the California Environmental Quality Act (CEQA). This combined BRTR/BRA documents desktop and field studies and provides an assessment of the potential to occur for special-status species in the vicinity of the Project.

Existing Vegetation

Within the Analysis Area, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*). In addition, large portions of the Analysis Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summation, vegetation in the Analysis Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats.

A total of 41 plant species were identified during field surveys within the Analysis Area in March 2021. Plant species observations do not represent a complete floristic survey. Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7.

California Native Plant Society vegetation categories observed within the Analysis Area and Project Area (**Figure 5**). These vegetation categories include *Brassica (nigra)* and other mustards semi-natural stands (18 percent of the Analysis Area and 24 percent of the Project Area), *Parkinsonia florida*—*Olneya tesota* alliance (2 percent of the Analysis Area and 2 percent of the Project Area), and *Larrea tridentata* — *Encelia farinosa* alliance (79 percent of the Analysis Area and 4 percent of the Project Area).

Special-Status Plant Species

A screening analysis was conducted to determine the potential for special status plant species to occur in the Analysis Area. The following were analyzed:

1. Plant species designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system.
2. Plant species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
3. Plant species identified for analysis under the California Environmental Quality Act (CEQA), including Plants designated as special-status by the California Native Plant Society (CNPS).

Three special status plant species, Munz cholla (*Cylindropuntia munzii*), Flat-seeded spurge (*Euphorbia platysperma*), and Pink fairy-duster (*Calliandra erophylla*), were determined to have a possible presence or a high potential to occur in the Analysis Area.

Existing Wildlife Species

During field survey conducted in March 2021 a total of 26 wildlife species were observed.

A screening analysis was conducted to determine the potential for special status wildlife species to occur in the Analysis Area. The following were analyzed:

1. Species and critical habitat designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system.
2. Species protected under the Bald and Golden Eagle Protection Act (BGEPA).
3. Species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
4. Species identified for analysis under the CEQA, including California Department of Fish and Wildlife (CDFW) Species of Special Concern; species designated as USFWS Birds of Conservation Concern; CDFW special-status invertebrates; and Species of bat listed as high and medium priority by the Western Bat Working Group.

One ESA listed species, the threatened Mohave Desert tortoise (*Gopherus agassizii*), was determined to be present the Analysis Area. No designated or proposed critical habitat occurs within the Project Area.

Three bats, pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and greater western mastiff bat (*Eumops perotis californicus*), that are listed as BLM Sensitive and State-Ranked in the

California Natural Diversity Database (CNDDDB) were determined to be present in the Analysis Area; and 2 bats, small-footed myotis (*Myotis ciliolabrum*) and cave myotis (*Myotis velifer*), that are also listed as BLM Sensitive and State-Ranked in the CNDDDB were determined to have a possible presence in the Analysis Area.

Two birds, Prairie falcon (*Falco mexicanus*) and Black-tailed gnatcatcher (*Polyptila melanura*) that are State-Ranked in the CNDDDB were determined to have a high potential to occur in the Analysis Area.

One lizard, Colorado Desert fringe-toed lizard (*Uma notata*), that is listed as BLM Sensitive and State-Ranked in the CNDDDB was determined to be present in the Analysis Area.

I. INTRODUCTION

Southern Empire Resources Corp. (SMP) is proposing mineral exploration activities, the Oro Cruz Pit Area Exploration Project, on lands managed by the Bureau of Land Management (BLM) in the Cargo Muchacho Mountains of Imperial County in southeastern California (the Project) (**Figures 1 and 2**). The BLM Exploration Plan of Operations (EPO) consists of an approximately 600-acre area (**Figure 2**). Within the EPO the Project Area consists of seven drill pads and associated access roads, totaling 21.1 acres of surface disturbance (**Figure 2**). The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

WestLand Resources, Inc. (WestLand) was retained to complete a combined BLM Biological Resource Technical Report (BRTR) to support environmental review of the Project by the BLM and a Biological Resource Assessment (BRA) to support environmental review by Imperial County under the California Environmental Quality Act (CEQA). This combined BRTR/BRA documents desktop and field studies and provides an assessment of the potential to occur for special-status species in the vicinity of the Project. An assessment of drainage features, including the potential for Waters of the U.S. and Waters of the State are being provided under separate cover.

For the purpose of this report, special-status species are defined as species designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), species listed under the Bald and Golden Eagle Protection Act (BGEPA), those species designated as sensitive by the BLM El Centro Field Office, and species reviewed to support Imperial County's CEQA process.

The following sections provide a Project description and location (**Section 2**), regulatory overview (**Section 3**), environmental setting (**Section 4**), methods (**Section 5**), results (**Section 6**), and references cited (**Section 7**).

2. PROJECT DESCRIPTION AND LOCATION

Within the Analysis Area, the disturbance occurs on seven drill areas and associated access roads (**Figure 2**). Within these areas, the Project entails 21.1 acres of surface disturbance. The Analysis Area is in Imperial County, California and occurs within portions of Township 15 South, Ranges 20 and 21 East. The Project Area is located approximately 7 miles north of Ogilby, California, eight miles northwest of Yuma, Arizona, 45 miles southeast of Blythe, California and 50 miles east of El Centro, California (**Figure 1**). To evaluate the special-status species potential to occur, a broader Analysis Area consisting of the drill exploration areas and access roads and a 500-foot buffer around these was established (**Figure 2**). Additionally, a 2-mile buffer around the drill areas and associated access roads where surface disturbance would occur was established as the Raptor Survey Area (**Figure 3**).

3. REGULATORY OVERVIEW

3.1. ENDANGERED SPECIES ACT

The USFWS and the National Marine Fisheries Service (NMFS) are the agencies responsible for implementing the federal Endangered Species Act (ESA) of 1973 (16 USC Section 1531 et seq.). Under the ESA, threatened and endangered species on the federal list and their habitats (50 CFR Subsection 17.11, 17.12) are protected from “take” (i.e., activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) as well as any attempt to engage in any such conduct, unless a Section 10 permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are provided to a lead federal agency. Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present within the study area and vicinity and determine whether the proposed project will have potential impacts upon such species.

3.2. BALD AND GOLDEN EAGLE PROTECTION ACT

The BGEPA (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

3.3. MIGRATORY BIRD TREATY ACT

Most bird species, especially those that are breeding, migrating, or of limited distribution, are protected under federal and/or State regulations. Under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Subsection 703-712) and USFWS regulations (50 CFR § 10.14), migratory bird species, their nests, and their eggs are protected from injury or death as a result of activities specifically directed at migratory birds. The USFWS recently proposed to revoke the existing regulations governing the implementation of the MBTA (86 FR 87: 24573-24581), effectively returning the interpretation of the prohibitions of the MBTA and enforcement discretion of the USFWS to the uncertainty associated with the split decisions among Federal Circuit Courts regarding the scope of the MBTA’s take prohibition.

3.4. CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) prohibits the take of State-listed threatened and endangered species. Under the CESA, the California Department of Fish and Wildlife (CDFW) is responsible for maintaining a list of rare, threatened, and endangered species designated under State law (California Fish and Game Code 2070-2079). The CDFW also maintains lists of candidate species, species of special concern, and fully protected species. Candidate species are those taxa which have

been formally recognized by the CDFW and are under review for addition to the State threatened and endangered list. Species of special concern are those taxa, which are considered sensitive, and this list serves as a “watch list.” Pursuant to the requirements of the CESA, agencies reviewing proposed projects within their jurisdictions must determine whether any State-listed species have the potential to occur within a proposed project site and if the proposed project would have potential impacts upon such species. Project-related impacts to species on the CESA’s rare, threatened, and endangered list would be considered significant and require mitigation. The CDFW can authorize take if an incidental take permit is issued by the Secretary of the Interior or Commerce in compliance with the ESA, or if the director of the CDFW issues a permit under Section 2081 in those cases where it is demonstrated that the impacts are minimized and fully mitigated.

3.5. CALIFORNIA FISH AND GAME CODE

The California Fish and Game Code defines take (Section 86) and prohibits taking of a species listed as threatened or endangered under the CESA (California Fish and Game Code Section 2080), or otherwise fully protected (California Fish and Game Code Sections §3511, §4700, §5050, and §5515). Section 2081(b) and (c) of the CESA allows the CDFW to issue an incidental take permit for a State listed threatened and endangered species if specific criteria outlined in Title 14 California Code of Regulations (CCR), Sections 783.4(a), (b) and California Fish and Game Code Section 2081(b) are met. The California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The CDFW protects plants designated as endangered or rare under Fish and Game Code Section 1900.

4. ENVIRONMENTAL SETTING

4.1. PHYSIOGRAPHIC, CLIMATE AND SURFACE WATER

The Analysis Area consists of rugged, eroding, rocky slopes composed of quartzites and schists that have been intruded by granitic rocks. In places there are andesite and dioritic dikes (Jennings et al. 1977). Climate within the Analysis Area is characterized by hot dry conditions in the summer months and dry mild winters. Average rainfall is 3.5 inches per year, occurring primarily during late winter (February and March) and the monsoon season (July to September). Average high temperature of the hottest (August) month is 105°F and average low temperature of the coldest month (December) is 66°F (Weather Underground 2021). No surface water features occur within the Analysis Area.

4.2. SOILS

Soils in the Analysis Area developed from weathered granitic rock and schistose rock substrates. The soils consist of extremely gravelly sands or gravelly loams with up to 90 percent coarse fragments. Soils within the Analysis Area are of two general types based on substrate and topographic position: residual soil material weathered in place on slopes and ridges; and deeper alluvial soils transported by water and gravity to toe slopes, washes, and outwash fans. Hill slopes in the Analysis Area are steep and almost entirely covered in large, weathered rock (BLM & P.M. De Dycker & Associates, Inc. 1994). The soils within the Analysis Area also contain large areas of disturbance from previous mining and reclamation activities.

4.3. VEGETATION

Vegetation in the Analysis Area is low desert scrub typical of the high temperature region of southeastern California. In general, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*) (**Appendix E Photo 12**). In addition, large portions of the Analysis Area consist of disturbed habitats dominated by non-native annual plants (**Appendix E Photo 11**). The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*) (**Appendix E Photo 18**). In summation, vegetation in the Analysis area is uniformly sparse and consists of very low density shrublands, upland trees and highly disturbed habitats (**Appendix E Photos 11, 12 and 18**).

Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7.

California Native Plant Society vegetation categories observed within the Analysis Area are described below:

Brassica (nigra) and other mustards semi-natural stands

Brassica (nigra) and other mustards semi-natural stands vegetation category occupies approximately 18 percent of the Analysis Area and 24 percent of the Project Area (**Figure 5**). This vegetation category corresponds with disturbed and barren areas. Although the named dominant species, black mustard (*Brassica nigra*), was not observed, Saharan mustard (*Brassica tournefortii*), a closely related non-native mustard was often present in both naturally disturbed areas including wash scour and human-disturbed areas such as roads, camp sites, and rock waste piles. This natural community is not classified as sensitive by the CDFW (2020).

Parkinsonia florida—Olneya tesota alliance

Parkinsonia florida—Olneya tesota alliance occupies approximately 2 percent of the Analysis Area and 2 percent of the Project Area (**Figure 5**). The vegetation category is primarily restricted to xeroriparian

areas including washes, drainages, and narrow canyons. Besides the named alliance's dominant plants, blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), other commonly occurring plants include sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo, and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the CDFW (2020).

Larrea tridentata — *Encelia farinosa* alliance

Larrea tridentata — *Encelia farinosa* alliance occupies approximately 79 percent of the Analysis Area and 74 percent of the Project Area and occurs in a variety of topographic settings (**Figure 5**). Besides the named alliance's dominant plants, creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*), other commonly occurring plants include ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobush (*Ambrosia dumosa*). This natural community is classified as sensitive by the CDFW (2020).

4.4. EXISTING CONDITIONS (OR LAND USE)

Off-road vehicle use, recreational vehicle camping, and other outdoor activities have added to the disturbances in the Analysis Area. Previous mining disturbance and underground mine features occur throughout the Analysis Area.

5. METHODS

In order to determine the potential to occur of special-status species two complementary methods were utilized: 1) Desktop screening and vegetation habitat mapping, and 2) Field survey.

5.1. DESKTOP SCREENING AND VEGETATION HABITAT MAPPING

5.1.1. Desktop Screening

A desktop screening analysis was completed to evaluate the potential for special-status species or their critical habitat to occur within the Analysis Area. For this assessment, special-status species are defined as:

- 1) Species and critical habitat designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system (**Appendix B**).
- 2) Species protected under the Bald and Golden Eagle Protection Act (BGEPA) (**Appendix B**).
- 3) Species designated as sensitive per the El Centro Field Office BLM list of California sensitive species (**Appendix C**).
- 4) California Environmental Quality Act (CEQA) species including CDFW Species of Special Concern; Plants designated as special-status by the California Native Plant Society (CNPS); USFWS Birds of Conservation Concern; CDFW special-status invertebrates; and Species of bat listed as high and medium priority by the Western Bat Working Group (**Appendix D**).

Special-status species were identified for the Analysis Area using a series of online databases and review of previous permitting efforts in the Project Area (Bureau of Land Management 2011, 2018, BLM & P.M. De Dycker & Associates, Inc. 1994). The IPaC system was used to create a list of ESA species and critical habitat likely to occur in the vicinity of the Analysis Area (**Appendix B**). WestLand reviewed California-specific special-status species that are documented to occur in the vicinity of the Project Area from the CDFW and CNPS using the BIOS and Rarefind tools (**Appendix D**). The BLM El Centro Field Office sensitive species list was also included in this screening (**Appendix C**). Previous permitting efforts in the Project Area include the American Girl Final Environmental Impact Statement (EIS), and American Girl East Mine Asphalt Batch Plant Environmental Assessment (EA) (BLM 2011, Bureau of Land Management 2018, BLM & P.M. De Dycker & Associates, Inc. 1994, Tetra Tech 2011).

In order to accommodate both the BLM's BRTR and the California Environmental Protection Agency (CalEPA) BRA requirements, two discrete potential to occur methods were used. The first potential to occur method pertained to all ESA listed, BGEPA listed and BLM sensitive species. The second potential to occur pertained to the CEQA species only. Under the first method (ESA listed, BGEPA listed and BLM sensitive species) potential of occurrence were defined as follows:

Present: The species has been observed to occur within the Analysis Area, the Analysis Area is within the known range and distribution of the species, and habitat characteristics required by the species are present.

Possible: There are no known records of the species within the Analysis Area, but the known, current distribution of the species includes the Analysis Area and the required habitat characteristics of the species appear to be present in the Analysis Area. Given the uncertainty associated with species identification and accuracy of the location of observations from eBird and other citizen science databases, observations associated with citizen science databases are evidence that a species is possible within the Analysis Area.

Unlikely: The known, current distribution of the species does not include the Analysis Area, but the distribution of the species is close enough such that the Analysis Area may be within the dispersal or foraging distance of the species, and they may show up as transients. The habitat characteristics required by the species may be present in the Analysis Area.

None: The Analysis Area is outside of the known distribution of the species or the habitat characteristics required by the species are not present.

Under the second method species evaluated for the CEQA process potential to occur was evaluated using the categories below.

No potential of occurrence: The Analysis Area is outside of the known distribution of the species or the habitat characteristics required by the species are not present.

Low potential of occurrence: The known, current distribution of the species does not include the Analysis Area, but the distribution of the species is close enough such that the Analysis Area may be within the dispersal or foraging distance of the species, and they may show up as transients. The habitat characteristics required by the species may be present in the Analysis Area.

Moderate potential of occurrence: There are no known records of the species within the Analysis Area, but the known, current distribution of the species includes the Analysis Area and the required habitat characteristics of the species appear to be present in the Analysis Area.

High potential of occurrence: The species has been observed to occur within the Analysis Area, the Analysis Area is within the known range and distribution of the species, and habitat characteristics required by the species are present.

5.1.2. Vegetation Habitat Mapping

Vegetation habitat mapping was conducted using the Supervised Classification tool in ArcGIS Pro 2.7 to provide site-specific vegetation mapping and to estimate the type and extent of vegetation habitat within the Analysis Area. Vegetation habitat mapping was then validated during the field survey and a total plant species list was created. Habitat mapping followed the recommended CNPS methods and nomenclature. In addition, mapping was used to identify California Sensitive Natural Communities (CDFW 2020).

Field surveys were conducted to provide an overview of the environmental conditions within the analysis Area. This overview consisted of: 1) Vegetation mapping validation; 2) Diurnal raptor surveys; 3) Habitat suitability assessments for Colorado desert fringe-toed lizard (*Uma notata*), western burrowing owl (*Athene cunicularia*), flat-tailed horned lizard (*Phrynos omamcalii*), and bat species; and 4) creation of a vertebrate wildlife and plant species list. In addition, previous Mojave Desert tortoise (*Gopherus agassizii*) surveys conducted within the Project Area were utilized to assess habitat suitability for this species (**Appendix A**). Survey methods applied by Stantec followed protocol *Preparing For Any Action That May Occur Within the Range Of The Mojave Tortoise* as developed by USFWS (2017) which consisted of 100 percent coverage of proposed drill areas. Based on conversations with the BLM and input from the USFWS, tortoise surveys conducted for SMP by Stantec biologists in January 2021 fulfill the survey obligations for this species (**Appendix A**).

Diurnal raptor surveys followed the USFWS recommended golden eagle nest survey protocol and included the selection of appropriate observation points (**Appendix E Photos 4, 5, 6 and 7**). This survey followed the recommendations outlined in the USFWS Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations dated February 2010 (Pagel, Whittington, and Allen 2010). These methods relied on well-placed observation posts and walking transects which provided unobstructed viewing of any potential nest locations. Each observation point or walking transect included a broad panorama of the surrounding habitat and was established in locations distant

enough from any potential nest sites to effectively observe the behavior of the adults (if present) without disturbing nesting behavior.

Habitat assessments for Colorado desert fringe-toed lizard, western burrowing owl, and flat-tailed horned lizard consisted of onsite evaluation of suitable habitat within the Analysis Area. These three species are listed as BLM sensitive species and CEQA species and have ranges which overlap the Analysis Area.

Bat species habitat was evaluated by revisiting high value underground mine roosting habitat within the Analysis Area identified by the BLM in previous survey efforts. Previous survey efforts detected 20 high value bat roosts in underground mines within the Analysis Area (**Figure 4**). WestLand conducted external habitat assessments of these mines to evaluate the habitat potential of each mine feature (**Appendix E Photos 15 and 16**). In addition, the Analysis Area was evaluated for bat roosting habitat including cliff, crevice, and vegetation roosts and foraging habitat.

6. RESULTS

6.1. PLANT SPECIES

A total of 41 plant species were identified during field surveys within the Analysis Area (**Table 1**). Three CNPS vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7 (**Figure 5**)(see discussion in Sec. 4.3). In general, plant cover in the Analysis Area is particularly sparse.

6.2. WILDLIFE SPECIES

During the field survey a total of 26 wildlife species were observed (**Table 2**). Five of these species were detected during the raptor surveys and two during evaluation of bat roosting habitat. These detections included two occupied prairie falcon (*Falco mexicanus*) eyries (nesting sites), a suspected red-tailed hawk (*Buteo jamaicensis*) nest, and an unoccupied stick nest (**Figure 3**). A single prairie falcon (*Falco mexicanus*) eyrie was located within the Project Area and the second within the Analysis Area (**Figure 3**). The suspected red-tailed hawk and unoccupied stick nest occurred outside of the Analysis Area but within the raptor survey area (**Figure 3**). Black-tailed gnatcatchers (*Polioptila melanura*) were observed in the Analysis Area.

Table 1. Plant species observed in the Analysis Area during the field survey. This list represents species observed during the field survey and does not represent a complete floristic survey.

Common Name	Scientific Name	Common Name	Scientific Name
PLANTS		PLANTS	
PERENNIALS		ironwood	<i>Olneya tesota</i>
burrobush	<i>Ambrosia dumosa</i>	beavertail pricklypear	<i>Opuntia basilaris</i>
burrobush	<i>Ambrosia salsola</i>	blue paloverde	<i>Parkinsonia florida</i>
western milkweed	<i>Asclepias albicans</i>	Schott's pygmycedar	<i>Peucephyllum schottii</i>
sweetbush	<i>Bebbia juncea</i>	velvet turtleback	<i>Psathyrotes ramosissima</i>
Paloverde	<i>Cercidium floridum</i>	desert globemallow	<i>Sphaeralcea ambigua</i>
pink fairyduster	<i>Cylindropuntia erophylla</i>	Mesquite	<i>Prosopis juliflora</i>
hairy prairie clover	<i>Dalea mollis</i>	Tamarisk*	<i>Tamarix pentandra</i>
narrowleaf silverbush	<i>Ditaxis lanceolata</i>	American threefold	<i>Trixis californica</i>
Inciensio	<i>Encelia farinose</i>	ANNUALS	
rough jointfir	<i>Ephedra aspera</i>	sixweeks threeawn	<i>Aristida adscensionis</i>
desert trumpet	<i>Eriogonum inflatum</i>	Asian mustard*	<i>Brassica tournefortii</i>
California fagonbush	<i>Fagonia laevis</i>	brittle spineflower	<i>Chorizanthe brevicornu</i>
California barrel cactus	<i>Ferocactus cylindraceus</i>	devil's spineflower	<i>Chorizanthe rigida</i>
ocotillo	<i>Fouquieria splendens</i>	pygmy poppy	<i>Eschscholzia minutiflora</i>
paleface	<i>Hibiscus denudatus</i>	Arizona lupine	<i>Lupinus arizonicus</i>
desert lavender	<i>Hyptis emoryi</i>	Mojave desertstar	<i>Monoptilon bellioides</i>
creosote	<i>Larrea tridentata</i>	desert palafox	<i>Palafoxia arida var. arida</i>
water jacket	<i>Lycium andersonii</i>	clefthead phacelia	<i>Phacelia crenulata</i>
Parry's false prairie-clover	<i>Marina parryi</i>	desert Indianwheat	<i>Plantago ovata</i>
desert wishbone-bush	<i>Mirabilis laevis</i>	yellowdome	<i>Trichoptilium incisum</i>
desert tobacco	<i>Nicotiana obtusifolia</i>	*non-native	

Table 2. Wildlife species observed in the Analysis Area. This list represents the species observed during the field survey and does not represent a complete list of wildlife occurring within the Analysis Area.

Common Name	Scientific Name	Common Name	Scientific Name
Black-throated sparrow	<i>Amphispiza bilineata</i>	canyon towhee	<i>Meloxone fusca</i>
verdin	<i>Auriparus flaviceps</i>	northern mockingbird	<i>Mimus polyglottos</i>
great horned owl	<i>Bubo virginianus</i>	Unknown Myotis	<i>Myotis spp.</i>
red-tailed hawk	<i>Buteo jamaicensis</i>	neotoma	<i>Neotoma spp.</i>
Costa's hummingbird	<i>Calypte costae</i>	ground squirrel	<i>Osteospermophilus spp.</i>
turkey vulture	<i>Cathartes aura</i>	Black-tailed gnatcatcher	<i>Polioptila melanura</i>
common raven	<i>Corvus corax</i>	rock wren	<i>Salpinctes obsoletus</i>
ladder-backed woodpecker	<i>Dryobates scalaris</i>	Say's phoebe	<i>Sayornis saya</i>
burro	<i>Equus asinus</i>	squirrel	<i>Scuridate spp.</i>
prairie falcon	<i>Falco mexicanus</i>	northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
house finch	<i>Haemorhous mexicanus</i>	cottontail	<i>Sylvilagus spp.</i>
loggerhead shrike	<i>Lanius ludovicianus</i>	side-blotched lizard	<i>Uta spp.</i>
California leaf-nosed bat	<i>Macrotus californicus</i>	fox	<i>Vulpes spp.</i>

During the field survey the Analysis Area was evaluated for habitat suitability for Colorado Desert Fringed-toed lizard, Western burrowing owl, and flat-tailed horned lizard (**Figure 6**). No habitat suitable for flat-tailed horned lizard was observed within the Analysis Area. Several small areas on the western and southern extremes of the Analysis Area include isolated sandy patches that may provide marginal habitat for Colorado Desert fringe-toed lizard (**Figure 6 and Appendix E Photos 13 and 14**). Areas of flat topography on the southern and western edges of the Analysis Area provide potentially suitable western burrowing owl habitat (**Figure 6 and Appendix E Photos 11 and 12**).

6.2.1. Bats

Bat surveys consisted of an external evaluation of all the high value bat roost locations provided by BLM. The BLM did not provide species specific use or roost types within these mine features. Bat surveys within these mines conducted for previous permitting efforts in the Project Area indicate that these mine features were occupied by a suite of species including California leaf-nosed bat (*Macrotus californicus*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*) and an unknown Myotis species, likely cave myotis (*Myotis velifer*) (BLM 2011, Bureau of Land Management 2018, BLM & P.M. De Dycker & Associates, Inc. 1994, Tetra Tech 2011). Our external evaluation of these 20 mines detected bat guano and urine staining visible from the mine opening without entry. Guano and staining associated with California leaf-nosed bat activity was observed at five of the mine features. Identified California leaf-nosed bat guano consisted of 1 to 2 centimeter black to yellow streaking on the sides and roof of the mine (Mixan, Diamond, and Gwinn 2016). Two mine features contained guano and urine staining consistent with California leaf-nosed bat and an unknown Myotis species. Guano associated with an unknown Myotis species was observed at a single mine feature (**Figure 4**). Myotis guano consisted of pellets 1 to 3 millimeters long (Adams 2003). Myotis guano was most often detected at the mine openings on the angle-iron bat compatible gates. Bat activity could not be ascertained from external evaluations alone in the remaining 12 mine features and bat activity is unknown (**Figure 4**).

6.3. SPECIES HISTORICAL OCCURRENCE WITHIN THE ANALYSIS AREA

Historical occurrence data indicate that six special-status species have been detected within or adjacent to the Analysis Area (**Figure 7**). Two of these species were observed during the field survey (California leaf-nosed bat and pink fairy duster [*Cylindropuntia erophylla*]) (**Tables 1 and 2**). Suitable habitat was detected for three species (Townsend's big-eared bat, pallid bat, and western mastiff bat [*Eumops perotis*]). The Mojave Desert tortoise has been documented within and adjacent to the Analysis Area (BLM 2011, 2018, BLM & P.M. De Dycker & Associates, Inc. 1994) (**Appendix A**). Stantec conducted Mojave Desert tortoise surveys in the Project Area from January 8 to 15, 2021. Within the Project Area a total of eight suitable tortoise burrows were detected (**Appendix A**). Of these eight burrows all but one was in good condition. Scat or recent tracks were observed at three of the detected tortoise burrows and a single scat was detected not associated with a burrow (**Figure 7**).

6.4. POTENTIAL FOR SPECIAL-STATUS SPECIES TO OCCUR

WestLand identified special-status species using the sources described above and evaluated the potential for these special-status species to occur in the Analysis Area. The results of the desktop screening, vegetation mapping, and field survey were utilized to assess each special-status species potential to occur (**Tables 3, 4, 5, and 6**). The following sections provide potential to occur for ESA listed species (**Section 6.5**); BGEPA listed species (**Section 6.6**); BLM sensitive species (**Section 6.7**); and CEQA species (**Section 6.8**).

6.5. ESA LISTED SPECIES

One ESA listed species, the threatened Mohave Desert tortoise, has a potential to occur of **Present** within the Analysis Area (**Table 3**). No designated or proposed critical habitat occurs within the Analysis Area (**Appendix B**).

6.6. BGEPA LISTED SPECIES

The bald eagle has a potential to occur of **None** and golden eagle (*Aquila chrysaetos*) has an **Unlikely** potential to occur as the habitat within the Analysis Area is unsuitable and the habitat within the 2-mile raptor survey buffer (**Figure 3**) was marginal.

6.7. BLM SENSITIVE SPECIES

The potential to occur for BLM Sensitive Species for the El Centro Field Office was evaluated through the desktop screening, field survey, and vegetation mapping. Species with a potential to occur of **None** are summarized in **Appendix F** and all others are in **Table 5**. This approach was utilized to reduce table volume. In total, the potential to occur was evaluated for 55 BLM sensitive species. Of those 55, 35 had a potential to occur of **None** (**Appendix F**). Of the remaining 20 species (**Table 5**); ten species had a potential to occur of **Unlikely**, five **Possible** and only five species had a potential to occur of **Present**. Four of the five species with a potential to occur of **Present** were bat species and the fifth was the Mojave Desert tortoise (**Table 5**).

6.8. SPECIES EVALUATED FOR THE CEQA PROCESS POTENTIAL

In total, the potential to occur within the Analysis Area was evaluated for 31 species for the CEQA process (**Table 6**). Of the 31 species evaluated nine had **No Potential of Occurrence**. Of the remaining 22 species, ten had a **Low Potential of Occurrence**, four had a **Moderate Potential of Occurrence** and eight had a **High Potential of Occurrence**. The species with a High Potential of Occurrence consisted of a single plant, two birds, four bats, and the Mojave Desert tortoise.

Table 3. ESA Listed Species

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Gopherus agassizii</i></p> <p>Mojave Desert Tortoise</p>	<p>Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).</p>	<p>Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015).</p> <p>Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a).</p>	<p>Occurs in the Mojave Desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).</p>	<p>This species occurs through the Mojave Desert in Southeastern California (Boarman 2002)</p>	<p>Present. The Analysis Area is within the range and contains potentially appropriate habitat. Surveys were conducted for the desert tortoise for the Project Area by Stantec in 2020 and detected tortoise use (Appendix A).</p>

Table 4. BGEPA Listed Species

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Aquila chrysaetos</i> Golden eagle	Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)	<p>Range-wide, breeds in a wide variety of open habitats, with nests typically on cliffs, and avoids heavily forested areas (Katzner et al. 2020). In Arizona, prefers pinyon-juniper woodlands and Sonoran desertscrub (Driscoll 2005). Constructs large nests on cliff ledges, rock outcrops, tall trees or, rarely, transmission towers (Driscoll 2005). Golden eagles are known to forage within 4.4 miles of the nest (Tesky 1994a), generally in open habitats where prey is available (Katzner et al. 2020). Primarily feeds on small mammals (greater than 80 percent of prey items) but also consumes birds, reptiles and fish (Katzner et al. 2020). In the western U.S. average territory size ranges from 22 to 55 square miles (AGFD 2002b). In California, typically occupy rolling foothills, mountain areas, sage-juniper flats and deserts (CDFW 1990).</p> <p>Elevation: In California, near sea level up to 11,500 ft (CDFW 1990).</p>	<p>This species is a short to medium-distance partial migrant with a Holarctic distribution (Katzner et al. 2020). In North America, primarily breeds in western portion of the continent from Alaska to central Mexico. Northern most populations are typically migratory. Year-round and non-breeding populations occur from central Saskatchewan to British Columbia, Canada and south throughout its range and sparsely in the eastern U.S. (Katzner et al. 2020).</p>	<p>Uncommon permanent resident and migrant throughout California, except center of Central Valley (CDFW 1990). Perhaps more common in northern and southern California (CDFW 1990).</p>	<p>Unlikely. The Analysis Area occurs within the know range of the species, however, no historical records for this species occur within the Analysis Area and the habitat within the Raptor survey area was searched and no evidence of Golden Eagle nesting was detected. No golden eagle nests are known to occur within 4.4 miles of the Analysis Area (Diamond 2016) and thus it is unlikely this species would utilize the Analysis Area as foraging habitat. No historical records of this species occur within or adjacent to the Analysis Area (Figure 7 and Appendix D).</p>

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Haliaeetus leucocephalus</i> Bald Eagle	Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)	<p>Breeding is concentrated in coastal areas, along rivers, lakes or reservoirs. Typically breeds in forested areas with edge habitat within 1.3 miles of aquatic habitats suitable for foraging. Prefers areas of shallow water and shorelines for fishing and hunting wide variety of waterfowl, and small aquatic and terrestrial mammals. Fish are preferred prey, but carrion is used extensively whenever encountered. Nests away from human disturbance in large trees and rarely on cliff ledges or on the ground when trees are absent. Winters primarily in coastal areas or along major river systems with adequate prey availability and large trees for perching (Buehler 2020). In California, more common at lower elevations (CDFW 1999).</p> <p>Elevation: In California, nesting most commonly found about 1,000 to 6,000 ft but can occur from near seal level to over 7,000 ft (Jurek 1988).</p>	<p>Migratory behavior varies among populations and age groups (Buehler 2020). Breeds south of the tundra throughout Canada and the U.S., excluding Hawaii. Additionally, small breeding populations occur in Baja California, Sonora and Chihuahua, Mexico (Buehler 2020). Winter range appears to be expanding as populations increase in size. Most populations are year-round residents with only the northern most populations in Alaska, U.S. and Canada withdrawing southward or to coastal areas (Fink 2018).</p>	<p>Permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties (CDFW 1999). Half of the wintering population is in the Klamath Basin (CDFW 1999). Not found in the high Sierra Nevada (CDFW 1999). Largest numbers found in Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, San Antonio Reservoir, and along the Colorado River (CDFW 1999). Local winter migrant at a few inland waters in southern California (CDFW 1999).</p>	<p>None. The Analysis Area occurs greater than the known foraging distance (1.3 miles from aquatic habitats) for this species. In addition, no suitable large nesting trees or cliffs occur within the Analysis Area. No historical records of this species occur within or adjacent to the Analysis Area (Figure 7 and Appendix D).</p>

Table 5. BLM El Centro Field Office Sensitive species

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
AMPHIBIANS				
<i>Scaphiopus couchii</i> Couch's spadefoot toad	Occurs in arid and semi-arid habitats of the southwest, along desert washes, desert riparian, palm oasis, desert succulent shrub, and desert scrub habitats (CDFW 2000). Can also be found in cultivated croplands. Requires friable soils for burrowing often beneath desert plants, logs, and other debris. Reproduces in temporary pools and potholes with water present for at least 10-12 days (CDFW 2000). Elevation: In California, from 690 to 1,120 ft (CDFW 2000).	Found in southeastern California along the Arizona border in Imperial, Riverside, and San Bernadino counties (CDFW 2000).	Southeastern California along the Arizona border (CDFW 2000).	Unlikely. The Analysis is within the known range of the species. However, there are no occurrence records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2021).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
BIRDS				
<p><i>Athene cunicularia hypugaea</i></p> <p>Western burrowing owl</p>	<p>This species inhabits flat or gently-sloping treeless and sparsely vegetated areas in deserts and grasslands (Poulin et al. 2011). In California, open, dry grassland and desert habitats, and in grass, forb and open shrub states of pinyon-juniper and ponderosa pine habitats. Areas with burrows and unobstructed perches are favored (Martin 2005). Largely reliant on burrows dug by mammals but, on rare occasion, will dig their own holes (Klute et al. 2003, Poulin et al. 2011). Northern populations are migratory, and habitat used migratory and winter period is similar to that used for breeding but with some evidence of increased reliance on agricultural areas (Klute et al. 2003, Poulin et al. 2011).</p> <p>Elevation: In California, up to 5,300 ft (CDFW 1999).</p>	<p>This species is a partial migrant, with northern populations being primarily migratory (Poulin et al. 2011). In southwestern states, individuals appear to make yearly decisions to remain on their breeding grounds or migrate, likely based on environmental conditions (Ogonowski and Conway 2009, Poulin et al. 2011). The hypugaea subspecies breeds in Alberta, British Columbia, Manitoba and Saskatchewan, Canada and 19 U.S. states including Arizona, California, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming (Klute et al. 2003). The breeding range extends southward into the Mexican states of Aguascalientes, Baja California, Baja California Sur, Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosí, Sinaloa, Sonora, Tamaulipas and Zacatecas (Poulin et al. 2011). Winters primarily in Arizona, California, Louisiana, New Mexico and Texas U.S., and southward through Mexico, excluding the Yucatan Peninsula, to Guatemala and Honduras, with rare reports as far south as Panama (Klute et al. 2003, Poulin et al. 2011).</p>	<p>In California, year-round resident throughout much of the state and on larger offshore islands (CDFW 1999).</p>	<p>Unlikely. The Analysis Area is within the known range of this species and potentially suitable habitat is present. No historical occurrence records are known from the Analysis Area (Appendix D). In addition, no Ebird observations have been made for this species within or adjacent to the Analysis Area (eBird 2021). No observation of this species or potential burrows were recorded during the field survey. However, potentially suitable habitat occurs on the western and southern ends of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 11 and 12).</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Melanerpes uropygialis</i></p> <p>Gila woodpecker</p>	<p>This species utilizes desert riparian and desert wash habitats, and orchard-vineyard and urban areas particularly in shade trees and date palm groves County (CDFW 1990). Utilizes areas with cottonwood and other desert riparian trees, shade trees, and date palms in California County (CDFW 1990). Also uses saguaros where available (CDFW 1990).</p>	<p>Found in southeast California, southwest Nevada, southern Arizona, southwest New Mexico and south into Mexico (Corman 2005a).</p>	<p>Resident in southern California along the Colorado River, and locally near Brawley, Imperial County (CDFW 1990).</p>	<p>Unlikely. Low potential of occurrence. because the majority of the Analysis Area does not contain appropriate habitat. We assessed all washes within the Analysis Area for woodpecker suitability and all washes were characterized by sparse ironwood, ocotillo, and low density of blue palo verde. There is one occurrence record for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020) in an unnamed wash south of Indian Wash about 2.25 miles West of the Cargo Mountains from March 2002. We inspected this wash (Appendix E Photo 17) and the washes within the Analysis Area varied widely from the occurrence site. The washes in the Analysis Area are dissimilar to the occurrence site as represented in Appendix E Photo 18.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Oreothlypis luciae</i> Lucy's warbler	Frequents open to dense thickets of mesquite and other trees and shrubs in desert wash and desert riparian habitat (Corman 2005b). Cover includes mesquite, salt cedar, palo verde, ironwood, and other riparian trees and shrubs (CDFW 1990). Nest in hidden areas including natural cavity, woodpecker holes, and behind loose bark, in old verdin nest or in a bank (CDFW 1990c).	Mainly breeds in the southwest U.S. and migrates to the Pacific slope of Mexico for the winter (Corman 2005b). Recently arrived in New Mexico. Winters almost exclusively in Mexico (Shuford and Gardali 2008a).	Currently numerous locally along the Lower Colorado River and small populations west to the Borrego Valley in San Diego County and north through the Mojave Desert to Furnace Creek Ranch in Death Valley National Park in Inyo County (Shuford and Gardali 2008a). Rare fall (August-February) migrant and winter visitor in California away from breeding habitats (Shuford and Gardali 2008a). In Lower Colorado River valley, occur in mesquite and other woodland in washes including Milpitas Wash in Imperial County, McCoy and Big washes in Riverside County, and Vidal and Chemehuevi washes in San Bernardino County (Shuford and Gardali 2008a).	Unlikely. While the Analysis Area occurs within the known range of this species the low density xeroriparian washes within the analysis area provide marginal habitat.
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat	Inhabits a wide variety of habitats including grasslands, shrublands, woodlands, and forest from sea level to mixed conifer forests (CDFW 1990c). Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, mines, and occasionally in hollow trees and buildings (CDFW 1990c). Night roosts may be in more open sites including porches and buildings (CDFW 1990c). Elevation: 1,900 to 6,560 ft (NatureServe 2021a).	Ranges throughout western North America, from British Columbia's southern interior, south to Queretaro and Jalisco, and east to Texas. Isolated population in Cuba (WBWG 2018). Most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts (WBWG 2018).	Locally common at low elevations in California. Occurs throughout California except for the high Sierra Nevada to Kern County and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County (CDFW 1990c).	Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Corynorhinus townsendii</i></p> <p>Townsend's big-eared bat</p>	<p>Forages in edge habitats along streams and adjacent to or within a variety of wooded habitats. Roosts in cliffs, caves, mines, tunnels, and buildings. Has a large home range and foraging distances (up to 93 miles) (Sherwin and Piaggio 2005).</p> <p>Elevation: Below 10,830 ft (Hammerson 2014).</p>	<p>Occurs from southern British Columbia, Canada and south through all western U.S. states eastward to the Black Hills of South Dakota and the Edwards Plateau in Texas. Isolated populations also exist in Oklahoma, Kansas, Arkansas, Missouri, Illinois, Indiana, Ohio, Kentucky, Virginia, and West Virginia. Range extends to the Isthmus of Tehuantepec, Mexico (Hammerson 2014).</p>	<p>Found throughout California but details of its distribution are not well known (CDFW 2000b).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.</p>
<p><i>Eumops perotis californicus</i></p> <p>Greater western mastiff bat</p>	<p>This species is found in areas with cliffs, which are used for roosting, in desert scrub, chaparral, oak woodland, ponderosa pine belt, mixed conifer forests and high elevation meadows (Siders and Pierson 2005). Maternity roosts occur in exfoliating rock slabs, crevices in boulders and buildings (Siders and Pierson 2005). The morphology of this species prevents it from drinking from water sources less than 98 ft in length and the availability of water limits its distribution across the landscape (AGFD 2014b). In Arizona, this species is a year-round resident that occurs in rocky canyons with abundant roosting crevices. Forages widely from roost sites in lower and upper Sonoran desertscrub near cliffs (AGFD 2014b) and has been captured more than 18 miles from roost sites (Siders and Pierson 2005).</p> <p>Elevation: In Arizona, 240–8,475 ft (AGFD 2014b). Foraging up to 10,000 ft in California (WBWG 2018).</p>	<p>Occurs in Arizona, California, Nevada, New Mexico, Texas and Utah, U.S. and the Mexican states of Baja California, Chihuahua, Coahuila, Durango, Sinaloa, Sonora and Zacatecas (AGFD 2014b, Hammerson 1994, Siders and Pierson 2005).</p>	<p>Found in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert (CDFW 1990).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Macrotus californicus</i></p> <p>California leaf-nosed bat</p>	<p>Typically forages along washes within 6.2 miles of their roost sites (Brown 2005). Primarily consumes insects but also consumes fruits (AGFD 2014a, Brown 2005). In Arizona, this species is a year-round resident of Sonoran Desertscrub. Consumes primarily insects taken on the wing or gleaned from vegetation, but have also been reported to feed on fruits, including those of cacti. Roost sites have large areas of ceiling and flying space, and include abandoned underground mines, caves, and rock shelters (AGFD 2014a).</p> <p>Elevation: In Arizona, below 4,000 ft (AGFD 2014a). In California, records are below 2,000 ft (CDFW 1990a).</p>	<p>Occurs in Arizona, California, Nevada and Utah, U.S. and the Mexican states of Baja California, Baja California Sur, Chihuahua, Sinaloa, Sonora and Tamaulipas (AGFD 2014a, Hammerson 2015a). (CDFW 1990a).</p>	<p>Found from Riverside, Imperial, San Diego, and San Bernardino counties. Historically occurred from Los Angeles to Sand Diego. Fairly common in some areas along the Colorado River (CDFW 1990a).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area. In addition, sign associated with this species was detected within the Analysis Area.</p>
<p><i>Myotis ciliolabrum</i></p> <p>Small-footed myotis</p>	<p>Occur in a variety of habitat but primarily found in relatively arid wooded and brushy uplands near water (CDFW 1990d), chaparral, riparian zones, and western coniferous forests (WBWG 2018). Roost caves, buildings, mines, crevices, and occasionally under bridges or bark. Night roost in buildings and caves (CDFW 1990d).</p> <p>Elevation: In California, sea level to at least 8,900 ft (CDFW 1990d).</p>	<p>Found across the western half of North American from British Columbia, Alberta, and Saskatchewan in Canada, throughout most of the U.S. west of the 100th Meridian, and into central Mexico (WBWG 2018).</p>	<p>Common in arid uplands in California and occurs from Contra Costa County south to the Mexican border in the coastal region. Also found on the west and east sides of the Sierra Nevada, and in the Great Basin and desert habitats from Modoc to Kern and San Bernardino counties (CDFW 1990d).</p>	<p>Possible. The analysis Area occurs within the range of this species and suitable roosting and foraging habitat exists within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Myotis velifer</i> Cave myotis	Forages in desertscrub vegetation and is tolerant of high temperatures and low humidity. Roosts in caves, tunnels, abandoned underground mines, buildings and under bridges within a few miles of water. In Arizona, hibernation roosts are in wet mine tunnels above 6,000 ft (AGFD 2002a). In California, utilize desert scrub, desert succulent shrub, desert wash, and desert riparian.(CDFW 1990b). Elevation: 300–8,800 ft (AGFD 2002a).	Occurs in Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Texas and Utah, U.S. Range extends southward through Mexico to Honduras (AGFD 2002a, Hammerson 2015b).	Restricted in California to lowlands of the Colorado River and adjacent mountain ranges, in San Bernardino, Riverside and Imperial counties, although more common farther east (CFDW 1990b).	Possible. An observation record for this species occurs adjacent to the Analysis Area and the Analysis Area contains suitable mine roosting habitat.
<i>Myotis yumanensis</i> Yuma myotis	Inhabits riparian, scrublands, desert, forest near permanent sources of water including rivers, and streams but also uses tinajas (WBWG 2018). Optimal habitats in California in areas with open forest and woodland with sources of water (CDFW 1990e). Roosts in bridges, buildings, cliff crevices, caves, mines, and trees (WBWG 2018). Have been observed roosting in abandoned swallow nests (CDFW 1990e). Elevation: In California, seal level to 11,000 ft considered uncommon to rare above 8,000 ft (CDFW 1990e).	Found across the western third of North America from British Columbia, Canada, to Baja California and southern Mexico. In the U.S. it occurs in all the Pacific coastal states, as far east as western Montana to the north, and as far east as western Oklahoma south (WBWG 2018).	Common and widespread in California but uncommon in the Mojave and Colorado desert regions, except for the mountain ranges bordering the Colorado River Valley (CDFW 1990e).	Unlikely. No permanent water sources occur within or adjacent to the analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Ovis canadensis nelsoni</i></p> <p>Desert bighorn sheep (aka. Nelson bighorn sheep)</p>	<p>Inhabits alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian (CDFW 1990). Uses rocky, steep terrain for reproduction and escape, prefers open areas of low-growing vegetation for feeding and requires adequate sources of water (CDFW 1990).</p>	<p>Historical range extended from northeastern California, Oregon, northern Nevada, and southwestern Idaho southward through the deserts of the southwestern U.S. to southern Baja California, northwestern Sonora Mexico, southern Arizona, southern New Mexico, Chihuahua Mexico and western Texas (Hammerson 2011).</p>	<p>Uncommon in California. There are three subspecies: California bighorn sheep (<i>O. c. californiana</i>), peninsular bighorn sheep (<i>O. c. cremnobates</i>), and Nelson bighorn sheep aka. desert bighorn sheep (<i>O. c. nelsoni</i>) (CDFW 1990). The desert bighorn sheep occur in desert mountain ranges from White Mountains of Mono and Inyo counties south to the San Bernardino Mountains and southeastward to the Mexican border with an isolated population occurs in the San Gabriel Mountains (CDFW 1990).</p>	<p>Unlikely. No historical occurrence records exist within the Analysis Area and no evidence of this species was observed during the field survey.</p>
PLANTS				
<p><i>Croton wigginsii</i></p> <p>Wiggin's croton</p>	<p>Perennial shrub that blooms March through May. Inhabits desert dunes and Sonoran desert scrub in sandy areas (CNPS 2021g).</p> <p>Elevation: 165 to 330 ft (CNPS 2021g).</p>	<p>Occurs in California, Arizona, Baja California and Sonora Mexico (CNPS 2021g).</p>	<p>Found in Imperial County (CNPS 2021g).</p>	<p>Unlikely. While no records of this species occur within the Analysis Area a small area of suitable sandy habitat in Sonoran desert scrub vegetation occurs on the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>
<p><i>Cylindropuntia munzii</i></p> <p>Munz cholla</p>	<p>Perennial stem succulent that blooms in May. Occurs on sandy or gravelly soils in Sonoran desert scrub (CNPS 2021d).</p> <p>Elevation: 500 to 1,970 ft (CNPS 2021d).</p>	<p>Found in California and Baja California (CNPS 2021d).</p>	<p>Located in Imperial and Riverside counties (CNPS 2021d).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>
<p><i>Euphorbia platysperma</i></p> <p>Flat-seeded spurge</p>	<p>Annual herb that blooms February through September. Occurs in desert dunes and sandy areas in Sonoran desert scrub (CNPS 2021a).</p> <p>Elevation: 215 to 330 ft (CNPS 2021a).</p>	<p>Located in California, Arizona, Baja California and Sonora Mexico (CNPS 2021a).</p>	<p>Found in Imperial, Riverside, San Diego counties and possibly in San Bernardino County (CNPS 2021a).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Lupinus excubitus</i> <i>var. medius</i> Mountain Springs bush lupine	Perennial shrub that blooms March through May. Inhabits Pinyon and juniper woodland and Sonoran desert scrub (CNPS 2021c). Elevation: 1,395 to 4,495 ft (CNPS 2021c).	Occurs in California and Baja California (CNPS 2021c).	Found in Imperial and San Diego counties (CNPS 2021c).	Unlikely. While the Analysis Area includes Sonoran desert scrub habitats no historical records for this species exist within the analysis Area.
<i>Pholisma sonorae</i> Sand food	Perennial herb (parasitic) that blooms April through June (CNPS 2021f). Inhabits sandy soils, sand dunes and other sandy areas. It is a root parasite of desert shrubs (Arizona Rare Plant Committee 2001, CNPS 2021f). Known hosts include <i>Ambrosia dumosa</i> , <i>Eriogonum deserticola</i> , <i>Pluchea sericea</i> , <i>Tiquilia palmeri</i> and <i>T. plicata</i> (Yatskievych 1994). Elevation: In California, below 656 ft (CNPS 2021f). In Arizona, below 1,345 ft (AGFD 2004).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (AGFD 2004, CNPS 2021f).	Known only from Imperial County (CNPS 2021f).	Unlikely. Small pockets of suitable sandy soils occur in the western extent of the Analysis Area and the suitable host plant (<i>Ambrosia dumosa</i>) occurs within the Analysis Area (Appendix E Photos 13 and 14).
<i>Xylorhiza orcuttii</i> Orcutt's woody-aster	Perennial herb that blooms March through April. Inhabits Sonoran desert scrub (CNPS 2021e). Elevation: 0 to 2,000 ft (CNPS 2021e).	Occurs in California and Baja California (CNPS 2021e).	Found in Imperial and San Diego counties (CNPS 2021e).	Unlikely. No historical records exist for this species within the Analysis Area. However, suitable Sonoran desert scrub occurs within the analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
REPTILES				
<i>Gopherus agassizii</i> ¹ Mojave Desert Tortoise	Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015). In California, found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides (CHS 2021b) Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a). Possibly up to 7,200 ft (CDFW 2000)	Occurs in the Mojave desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).	Throughout the Mojave Desert and south along the Colorado River along the east side of the Salton Basin in the Sonoran Desert but absent from the Coachella Valley except from the Boyd Deep Canyon Research Center area (CHS 2021b). Introduced population in Anza-Borrego State Park in San Diego County (CHS 2021b).	Present. Active Tortoise burrows and scat have been detected within the Analysis Area. Records of this species occur within the Analysis Area (Appendix A).

¹ Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Uma notata</i> Colorado Desert fringe-toed lizard</p>	<p>Occupies fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub in the Colorado and Sonoran desert (CDFW 2000). Utilize sparsely-vegetated arid areas and burrows as refugia (CHS 2021a). Elevation: sea level to 1,600 ft (CHS 2021a).</p>	<p>Occurs in California and Baja California (CHS 2021a).</p>	<p>Found in extreme southeast California in the Colorado Desert from the Salton Sea and Imperial sand hills east to the Colorado River, south to the Colorado River delta and on into northeastern Baja California, and east to Borrego Mountain (CHS 2021a).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>

Table 6. CEQA Special-Status Species

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
BIRDS				
<p><i>Melanerpes uropygialis</i></p> <p>Gila woodpecker</p>	<p>This species utilizes desert riparian and desert wash habitats, and orchard-vineyard and urban areas particularly in shade trees and date palm groves County (CDFW 1990). Utilizes areas with cottonwood and other desert riparian trees, shade trees, and date palms in California County (CDFW 1990). Also uses saguaros where available (CDFW 1990).</p> <p>Elevation: near sea level to 3,940 ft (NatureServe 2021e).</p>	<p>Found in southeast California, southwest Nevada, southern Arizona, southwest New Mexico and south into Mexico (Corman 2005a).</p>	<p>Resident in southern California along the Colorado River, and locally near Brawley, Imperial County (CDFW 1990).</p>	<p>Low potential of occurrence. because the majority of the Analysis Area does not contain appropriate habitat. We assessed all washes within the Analysis Area for woodpecker suitability and all washes were characterized by sparse ironwood, ocotillo, and low density of blue palo verde. There is one occurrence record for this species within the California Natural Diversity Database in these quadrangles (CDFW 2021) in an unnamed wash south of Indian Wash about 2.25 miles West of the Cargo Mountains from March 2002. We inspected this wash (Appendix E Photo 17) and the washes within the Analysis Area varied widely from the occurrence site. The washes in the Analysis Area are dissimilar to the occurrence site as represented in Appendix E Photo 18.</p>
<p><i>Taxostoma crissale</i></p> <p>Crissal thrasher</p>	<p>Inhabits dense sagebrush and other shrubs in desert washes and desert riparian areas with juniper and pinyon-juniper. Frequently found in habitats with mesquite, screwbean mesquite, ironwood, catclaw acacia, and arrowweed willow (CDFW 1990).</p> <p>Elevation: up to 5,900 ft (CDFW 1990).</p>	<p>Found throughout southwestern portions of the U.S. from southeastern California east through southern Nevada, southwestern Utah, norther Arizona, and southwestern New Mexico to western Texas and south to south-central Mexico and northeast Baja California (Shuford and Gardali 2008b).</p>	<p>Eastern Mojave Desert of Sand Bernardino and southeaster Inyo counties also resident in Imperial, Coachella, and Borrego valleys (CDFW 1990).</p>	<p>Moderate potential of occurrence due to range, appropriate habitat, but no occurrence record or observation during field investigation.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Taxostoma lecontei</i> Le Conte's thrasher	Utilize open desert wash, desert scrub, alkali desert scrub, desert succulent shrub habitats, and in Joshua tree habitat with scattered shrubs. Frequently use saltbush and cholla (CDFW 2005). Rarely occurs in habitats consisting entirely of creosotebush (NatureServe 2021f). Elevation: below sea level to 5,250 ft, mostly between 0 to 492 ft(NatureServe 2021f).	Occur throughout southwestern U.S. and northwestern Mexico (NatureServe 2021f, Sheppard 2019).	Found in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley. Formerly found north to Fresno County and Kern County (CDFW 2005).	Low potential of occurrence. The low density cholla and creosotebush habitat dominance within the Analysis Area provides marginal habitat.
<i>Falco mexicanus</i> Prairie falcon	Breeds in open habitats, including shrub-step desert, grasslands with or without shrubs, and alpine tundra when cliffs or bluffs are present to provide nesting sites (Steenhof 2013). In Arizona, this species is found nesting in Sonoran desertscrub, in areas with mixed grassland and cold-temperate desertscrub, and pinyon pine-juniper or Madrean evergreen oak woodlands. Occasionally nest in areas of alpine grassland and mixed conifer forests. Open areas for foraging and the availability of nest sites are the primary determinants of the species distribution during the breeding season (Moors 2005). Nests primarily on cliff ledges but also use trees, buildings, electrical towers, and cliffs created by mines or quarries (Steenhof 2013). When food is plentiful, this raptor travels the least possible distance necessary to secure required food supplies but have been known to forage up to 15 miles from the nest (Tesky 1994b). During the fall and winter, increased numbers of individuals occur in open grasslands, creosote-bursage habitats, and agricultural areas (Moors 2005, Steenhof 2013). Elevation: Breeds 500–9,000 ft (Moors 2005). Elsewhere, up to 11,000 ft (Steenhof 2013).	Not considered a true migrant but undertakes seasonal movements in response to food availability and typically has widely separated nesting, post-nesting and wintering areas (Steenhof 2013). However, populations in California are resident. Breeds from south-central British Columbia and southern Alberta, through the western U.S., including western Texas, and into central Baja California, Chihuahua, Coahuila, central Durango, and San Luis Potosí. Winter range extends west to the Pacific Coast and eastward to Minnesota, northwest Iowa, east-central Missouri, central Oklahoma, and most of Texas. Mexican range expands slightly southward to include Baja California Sur, Zacatecas and possibly even to Oaxaca (Steenhof 2013).	Occurs throughout the state (Moors 2005).	High potential of occurrence. The Analysis Area occurs within suitable habitat in the range of this species and 2 occupied eyries were detected within the analysis Area (Appendix E Photos 8 and 9).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Athene cunicularia hypugaea</i></p> <p>Western burrowing owl</p>	<p>This species inhabits flat or gently-sloping treeless and sparsely vegetated areas in deserts and grasslands (Poulin et al. 2011). In Arizona, this species most commonly breeds in grazed grasslands and open disturbed areas such as the edges of agricultural fields, fallow fields, bladed areas, irrigation embankments, airports and golf courses. This species additionally breeds in sparsely vegetated Sonoran or cold-temperate desertscrub (Martin 2005). Areas with burrows and unobstructed perches are favored (Martin 2005). Largely reliant on burrows dug by mammals but, on rare occasion, will dig their own holes (Klute et al. 2003, Poulin et al. 2011). Northern populations are migratory, and habitat used migratory and winter period is similar to that used for breeding but with some evidence of increased reliance on agricultural areas (Klute et al. 2003, Poulin et al. 2011).</p> <p>Elevation: In Arizona, 650–6,140 ft (AGFD 2001).</p>	<p>This species is a partial migrant, with northern populations being primarily migratory (Poulin et al. 2011). In southwestern states, individuals appear to make yearly decisions to remain on their breeding grounds or migrate, likely based on environmental conditions (Ogonowski and Conway 2009, Poulin et al. 2011). The hypugaea subspecies breeds in Alberta, British Columbia, Manitoba and Saskatchewan, Canada and 19 U.S. states including Arizona, California, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming (Klute et al. 2003). The breeding range extends southward into the Mexican states of Aguascalientes, Baja California, Baja California Sur, Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosí, Sinaloa, Sonora, Tamaulipas and Zacatecas (Poulin et al. 2011). Winters primarily in Arizona, California, Louisiana, New Mexico and Texas U.S., and southward through Mexico, excluding the Yucatan Peninsula, to Guatemala and Honduras, with rare reports as far south as Panama (Klute et al. 2003, Poulin et al. 2011).</p>	<p>Found nesting throughout the state where favorable habitat is present. Southern populations are primarily resident whereas northern populations are migratory and are on their breeding grounds mid-March through as late as mid-October (Martin 2005).</p>	<p>Low potential of occurrence due to range, appropriate habitat, but no historical occurrence records (Appendix D). In addition, no Ebird observations have been made for this species within or adjacent to the Analysis Area (eBird 2021). No observation of this species or potential burrows were recorded during the field survey. However, potentially suitable habitat occurs on the western and southern ends of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 11 and 12).</p>
<p><i>Polioptila melanura</i></p> <p>Black-tailed gnatcatcher</p>	<p>This species is associated with Mojave and Sonoran desert scrub habitats. These habitats include mesquite, creosotebush, ocotillo and various cactus species (Tinant 2006).</p>	<p>Black-tailed gnatcatchers range from southern Nevada to northern Mexico and from southeastern California to southwestern New Mexico (Tinant 2006).</p>	<p>In California this species occurs only in southeastern California within suitable Mojavian and Sonoran desert scrub habitats (Tinant 2006).</p>	<p>High potential of occurrence. The analysis Area occurs within suitable habitat within the range of this species and individuals were detected during the field survey.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
INSECTS				
<i>Anomala hardyorum</i> Hardy's dune beetle	Member of the family Scarabaeidae. Most often found on north or east facing dune slip faces (UFWS 2006b).	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. No appropriate dune slip faces occur within the analysis Area.
<i>Apiocera warneri</i> Glamis sand fly	Member of the family Apioceridae. Flower-loving flies that are most common in dry, sandy habitats (Yeates and Irwin 1996).	Family is known in the deserts of North America, South America, and Australia (Yeates and Irwin 1996).	Known from southern California (NatureServe 2021b).	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.
<i>Cyclocephala wandae</i> Wandae dune beetle	Member of the family Scarabaeidae. Habitat information is lacking (UFWS 2006b).	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known only from collections in the Algodones Dunes in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable dune habitat.
<i>Effertia macroxipha</i> Glamis robberfly	In the genus <i>Effertia</i> . High diversity in arid or semi-arid ecosystems. Tend to perch close to the ground and often remain immobile.	Genus occur throughout the New World.	Known from southern California (Forbes 1988, NatureServe 2021c).	Moderate Potential of occurrence. The Analysis Area occurs within the known range.
<i>Euparagia unidentata</i> Algodones euparagia	In the family Vespidae. Inhabits desert regions (Bohart 1989). Limited habitat information available.	Endemic to Algodones Dunes in North America (Nature Serve 2021d, UFWS 2006b).	Endemic to Algodones Dunes in Imperial County (Nature Serve 2021d, UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Microbembex elegans</i> Algodones elegant sand wasp	In the family Sphecidae. Small sized. Inhabits active slip faces within sand dune systems often found at the base of shrubs where detritus collects (UFWS 2006b).	Species in genus <i>Microbembix</i> are found in North and South America. Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Perdita algodones</i> Algodones perdita	Dune habitats (UFWS 2006b) Limited habitat information available.	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known in the vicinity of Glamis, in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Perdita frontalis</i> Imperial perdita	All species in <i>Perdita</i> genus nest in sandy or partially sandy soil. Specialize on a variety plant families (Portman, Griswold, and Nell 2016).	Southwestern U.S. and Mexico (Portman, Griswold, and Nell 2016).	Southern California	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Perdita stephanomeriae</i> A miner bee	All species in Perdita genus nest in sandy or partially sandy soil. Specialize on a variety of plant families (Portman and Griswold 2017, Portman, Griswold, and Nell 2016).	Southwestern U.S. and Mexico (Portman, Griswold, and Nell 2016).	Southern California	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.
<i>Pseudocotalpa andrewsi</i> Andrew's dune scab beetle	In the family Scarabaeidae. Shining leaf chafer that inhabits drifting sand between dunes (USFW 2006a)	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of suitable dune habitat.
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat	Inhabits a wide variety of habitats including grasslands, shrublands, woodlands, and forest from sea level to mixed conifer forests (CDFW 1990c). Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, mines, and occasionally in hollow trees and buildings (CDFW 1990c). Night roots may be in more open sites including porches and buildings (CDFW 1990c). Elevation: 1,900 to 6,560 ft (NatureServe 2021a).	Ranges throughout western North America, from British Columbia's southern interior, south to Queretaro and Jalisco, and east to Texas. Isolated population in Cuba (WBWG 2018). Most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts (WBWG 2018).	Locally common at low elevations in California. Occurs throughout California except for the high Sierra Nevada to Kern County and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County (CDFW 1990c).	High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable crevice and mine roosting habitat occurs within the Analysis Area (Appendix E Photos 15 and 16).
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	Forages in edge habitats along streams and adjacent to or within a variety of wooded habitats. Roosts in cliffs, caves, mines, tunnels, and buildings (Diamond and Diamond 2014). Has a large home range and foraging distances (up to 93 miles) (Sherwin and Piaggio 2005). Elevation: Below 10,830 ft (Hammerson 2014).	Occurs from southern British Columbia, Canada and south through all western U.S. states eastward to the Black Hills of South Dakota and the Edwards Plateau in Texas. Isolated populations also exist in Oklahoma, Kansas, Arkansas, Missouri, Illinois, Indiana, Ohio, Kentucky, Virginia, and West Virginia. Range extends to the Isthmus of Tehuantepec, Mexico (Hammerson 2014).	Found throughout California but details of its distribution are not well known (CDFW 2000b).	High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable mine roosting habitat occurs within the Analysis Area (Appendix E Photos 15 and 16).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Eumops perotis californicus</i></p> <p>Greater western mastiff bat</p>	<p>This species is found in areas with cliffs, which are used for roosting, in desert scrub, chaparral, oak woodland, ponderosa pine belt, mixed conifer forests and high elevation meadows (Siders and Pierson 2005). Maternity roosts occur in exfoliating rock slabs, crevices in boulders and buildings (Siders and Pierson 2005). The morphology of this species prevents it from drinking from water sources less than 98 ft in length and the availability of water limits its distribution across the landscape (AGFD 2014b). In Arizona, this species is a year-round resident that occurs in rocky canyons with abundant roosting crevices. Forages widely from roost sites in lower and upper Sonoran desertscrub near cliffs (AGFD 2014b) and has been captured more than 18 miles from roost sites (Siders and Pierson 2005).</p> <p>Elevation: In Arizona, 240–8,475 ft (AGFD 2014b). Foraging up to 10,000 ft in California (WBWG 2018).</p>	<p>Occurs in Arizona, California, Nevada, New Mexico, Texas and Utah, U.S. and the Mexican states of Baja California, Chihuahua, Coahuila, Durango, Sinaloa, Sonora and Zacatecas (AGFD 2014b, Hammerson 1994, Siders and Pierson 2005).</p>	<p>Found in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert (CDFW 1990).</p>	<p>High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable rock slabs and crevice roosting habitat occurs within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Macrotus californicus</i> California leaf-nosed bat	Typically forages along washes within 6.2 miles of their roost sites (Brown 2005). Primarily consumes insects but also consumes fruits (AGFD 2014a, Brown 2005). In Arizona, this species is a year-round resident of Sonoran Desertscrub. Consumes primarily insects taken on the wing or gleaned from vegetation, but have also been reported to feed on fruits, including those of cacti. Roost sites have large areas of ceiling and flying space, and include abandoned underground mines, caves, and rock shelters (AGFD 2014a). Elevation: In Arizona, below 4,000 ft (AGFD 2014a). In California, records are below 2,000 ft (CDFW 1990a).	Occurs in Arizona, California, Nevada and Utah, U.S. and the Mexican states of Baja California, Baja California Sur, Chihuahua, Sinaloa, Sonora and Tamaulipas (AGFD 2014a, Hammerson 2015a). (CDFW 1990a).	Found from Riverside, Imperial, San Diego, and San Bernardino counties. Historically occurred from Los Angeles to San Diego. Fairly common in some areas along the Colorado River (CDFW 1990a).	High potential of occurrence. This species has been previously observed within the Analysis Area, and suitable mine roosting habitat occurs within the Analysis Area (Figure 7 and Appendix E Photos 15 and 16). In Addition, during the habitat assessment visit, stringy black guano and urine staining was detected on the sides of mines within the Analysis Area indicating that this species is present.
<i>Myotis velifer</i> Cave myotis	Forages in desertscrub vegetation and is tolerant of high temperatures and low humidity. Roosts in caves, tunnels, abandoned underground mines, buildings and under bridges within a few miles of water. In Arizona, hibernation roosts are in wet mine tunnels above 6,000 ft (AGFD 2002a). In California, utilize desert scrub, desert succulent shrub, desert wash, and desert riparian.(CDFW 1990b). Elevation: 300–8,800 ft (AGFD 2002a).	Occurs in Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Texas and Utah, U.S. Range extends southward through Mexico to Honduras (AGFD 2002a, Hammerson 2015b).	Restricted in California to lowlands of the Colorado River and adjacent mountain ranges, in San Bernardino, Riverside and Imperial counties, although more common farther east (CFDW 1990b).	Moderate potential of occurrence. An observation record for this species occurs adjacent to the Analysis Area and the Analysis Area contains suitable mine roosting habitat Figure 7 and Appendix E Photos 15 and 16).
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	Inhabits pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Roosts in rock crevices, caverns, or buildings. Drinks water from sources with open access and large surface areas (CDFW 2000a). Elevation: near sea level to about 7,300 ft (WBWG 2018).	Occurs in western North America from southern California, central Arizona, southern New Mexico, and western Texas, south into Mexico including Baja California (WBWG 2018).	Found in Riverside, San Diego, and Imperial counties. Rare in California (CDFW 2000a).	Moderate potential of occurrence. The Analysis Area occurs within the range of this species and suitable rock crevice roosting habitat occurs within the Analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
PLANTS				
<i>Astragalus insularis</i> var. <i>harwoodii</i> Harwood's milk-vetch	Annual herb that blooms January through May. Inhabits sandy or gravely soils in desert dunes and Mohavean desert scrub (CNPS 2021i). Elevation: 0 to 2,330 ft (CNPS 2021i).	Occurs in Arizona, California, Baja California, Nevada, and Sonora Mexico (CNPS 2021i).	Found in Imperial, Riverside, San Bernardino, and San Diego counties (CNPS 2021i).	No potential of occurrence. No suitable dune habitat in Mohavean desert scrub occurs within the analysis Area and no records for this species occur within the Analysis Area.
<i>Calliandra erophylla</i> Pink fairy-duster	Perennial deciduous shrub that blooms January through March. Inhabits sandy or rocky soils in Sonoran desert scrub (CNPS 2021j). Elevations: 393 to 4,925 ft (CNPS 2021j).	Occurs in Arizona, California, Baja California, New Mexico, Texas, Utah, and Sonora Mexico (CNPS 2021j).	Found in Imperial, Riverside, and San Diego counties (CNPS 2021j).	High probability of occurrence. An occurrence record for this species exists within the Analysis Area and the species was observed in very low densities within the Analysis Area (Figure 7).
<i>Croton wigginsii</i> Wiggin's croton	Perennial shrub that blooms March through May. Inhabits desert dunes and Sonoran desert scrub in sandy areas (CNPS 2021g). Elevation: 165 to 330 ft (CNPS 2021g).	Occurs in California, Arizona, Baja California and Sonora Mexico (CNPS 2021g).	Found in Imperial County (CNPS 2021g).	Low probability of occurrence. While no records of this species occur within the Analysis Area a small area of suitable sandy habitat in Sonoran desert scrub vegetation occurs on the western edge of the analysis Area outside of the Project Area.
<i>Ditaxis claryana</i> Glandular ditaxis	Perennial herb that blooms October, December, January, February, and March. Inhabits sandy areas in Mojavean desert scrub and Sonoran desert scrub (CNPS 2021h). Elevation: 0 to 1,525 ft (CNPS 2021h).	Occurs in Arizona, California, and Sonora Mexico (CNPS 2021h).	Found in Imperial, Riverside, and San Bernardino counties (CNPS 2021h).	Low probability of occurrence. While no records of this species occur within the Analysis Area a small area of suitable sandy area in Sonoran desert scrub vegetation occurs on the western edge of the analysis Area outside of the Project Area.
<i>Palafoxia arida</i> var. <i>gigantea</i> Giant Spanish needle	Annual/perennial herb that blooms January through May. Inhabits desert dunes (CNPS 2021b). Elevation: 50 to 330 ft (CNPS 2021b).	Occurs in California and Sonora Mexico (CNPS 2021b).	Known only from Imperial County (CNPS 2021b).	No potential of occurrence. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Pholisma sonorae</i> Sand food	Perennial herb (parasitic) that blooms April through June (CNPS 2021f). Inhabits sandy soils, sand dunes and other sandy areas. It is a root parasite of desert shrubs (Arizona Rare Plant Committee 2001, CNPS 2021f). Known hosts include <i>Ambrosia dumosa</i> , <i>Eriogonum deserticola</i> , <i>Pluchea sericea</i> , <i>Tiquilia palmeri</i> and <i>T. plicata</i> (Yatskievych 1994). Elevation: In California, below 656 ft (CNPS 2021f). In Arizona, below 1,345 ft (AGFD 2004).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (AGFD 2004, CNPS 2021f).	Known only from Imperial County (CNPS 2021f).	Low potential of occurrence. Small pockets of suitable sandy soils occur in the western extent of the Analysis Area and the suitable host plant (<i>Ambrosia dumosa</i>) occurs within the Analysis Area.
REPTILES				
<i>Gopherus agassizii</i> ² Mojave Desert Tortoise	Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015). Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a).	Occurs in the Mojave desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).	More common in southern, central and the extreme northeast portion of state, but occurs throughout the state where suitable habitat exists (AGFD 2011).	High potential of occurrence. Active Tortoise burrows and scat have been detected within the Analysis Area. Records of this species occur within the Analysis Area (Appendices A and E Photo 19).

² Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Phrynosoma mcallii</i> Flat-tailed horned lizard	Inhabits hard packed sandy flats and low dunes in Lower Colorado River desertscrub community, particularly in areas with creosote-white bursage vegetation (USFWS Brennan 2008, 2011). Elevation: Below 820 ft (AGFD 2010b).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (USFWS 2011).	Found in the extreme southwestern portion of the state in the Yuma Desert (AGFD 2010b, USFWS 2011).	No potential of occurrence. No suitable hard packed sandy flats or low dunes occur within the Analysis Area. No records for this species occur within the Analysis Area.
<i>Uma notata</i> Colorado desert fringe-toed lizard	Occupies fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub in the Colorado and Sonoran desert (CDFW 2000). Utilize sparsely-vegetated arid areas and burrows as refugia (CHS 2021a). Elevation: sea level to 1,600 ft (CHS 2021a).	Occurs in California and Baja California (CHS 2021a).	Found in extreme southeast California in the Colorado Desert from the Salton Sea and Imperial sand hills east to the Colorado River, south to the Colorado River delta and on into northeastern Baja California, and east to Borrego Mountain (CHS 2021a).	Low potential of occurrence. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 13 and 14).

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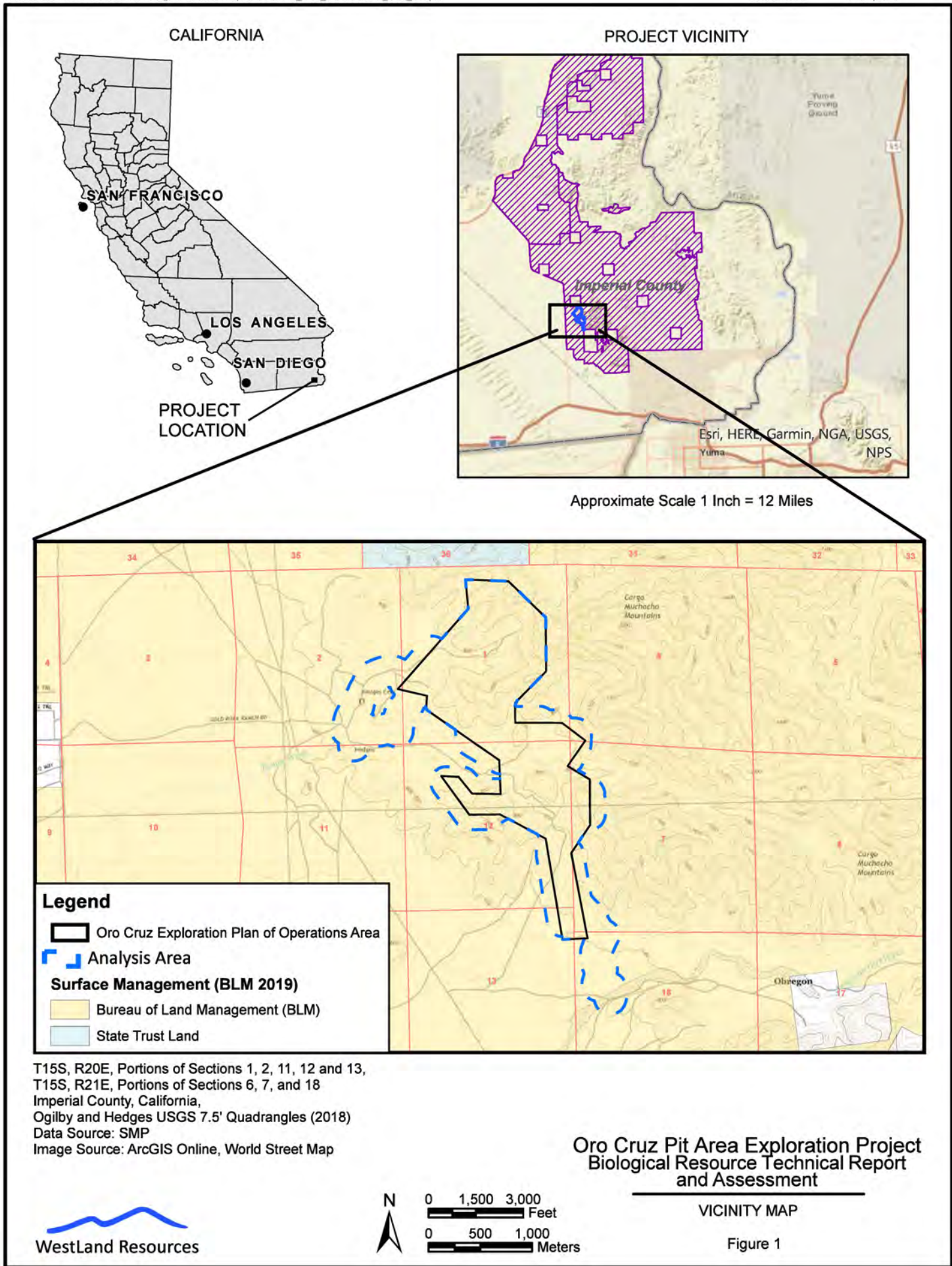
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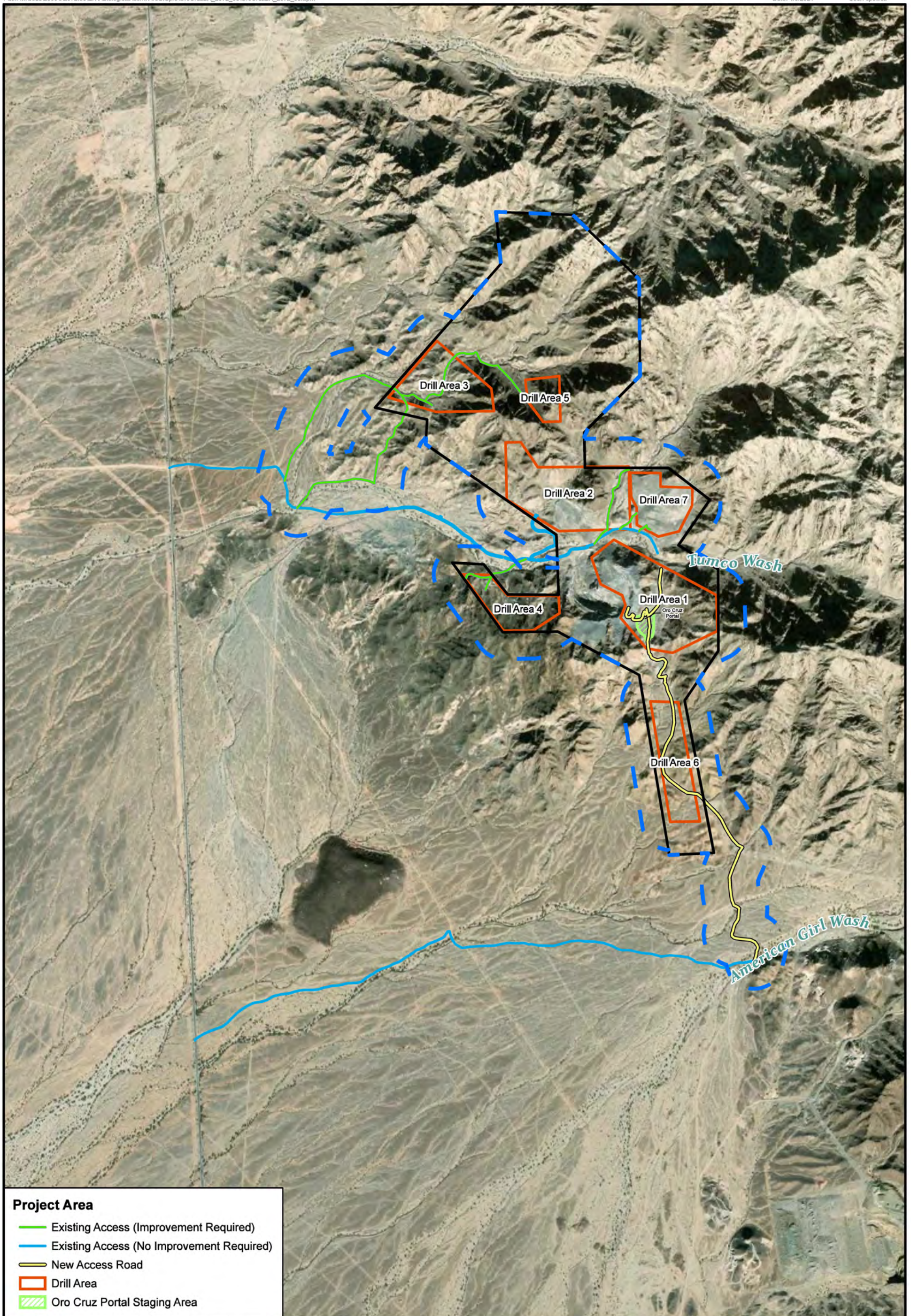
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FIGURES





Project Area

- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Drill Area
- Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018



Legend

- Oro Cruz Exploration Plan of Operations Area
- Analysis Area

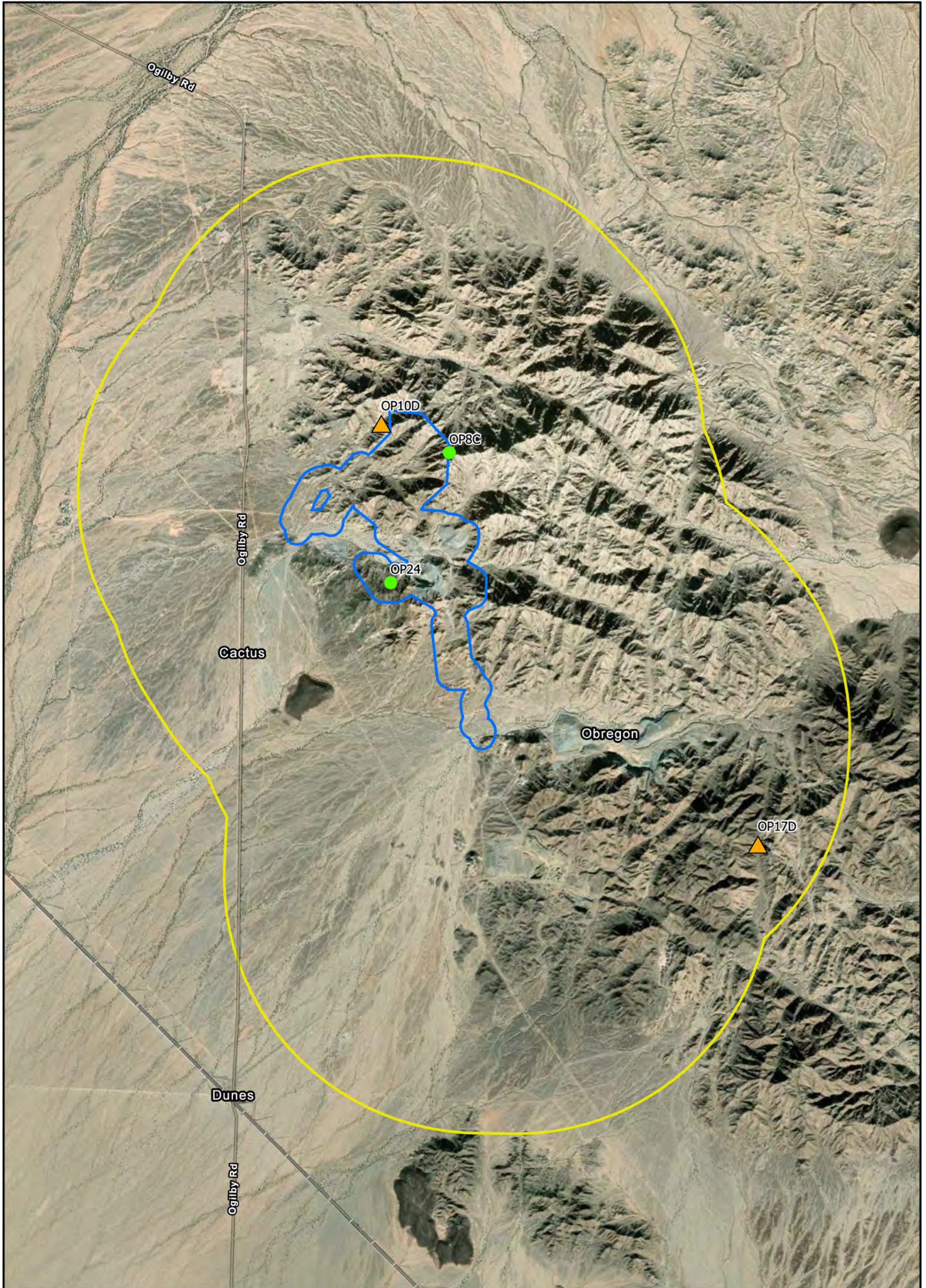
N

0 800 1,600 Feet

0 400 800 Meters

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
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ANALYSIS AREA
 Figure 2



T14S, R20E, Portions of Sections 24-27, and 34-36,
 T14S, R21E, Portions of Sections 19, and 29-32,
 T15S, R20E, Portions of Sections 1-3, 10-15, 23-26, 35, and 36,
 T15S, R21E, Portions of Sections 4-9, 16-21, and 28-32,
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

Legend

Oro Cruz Raptor Survey Area

Analysis Area

Sightings

Type

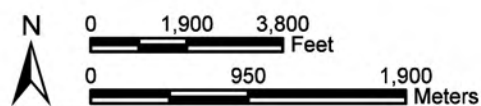
● Eyrie

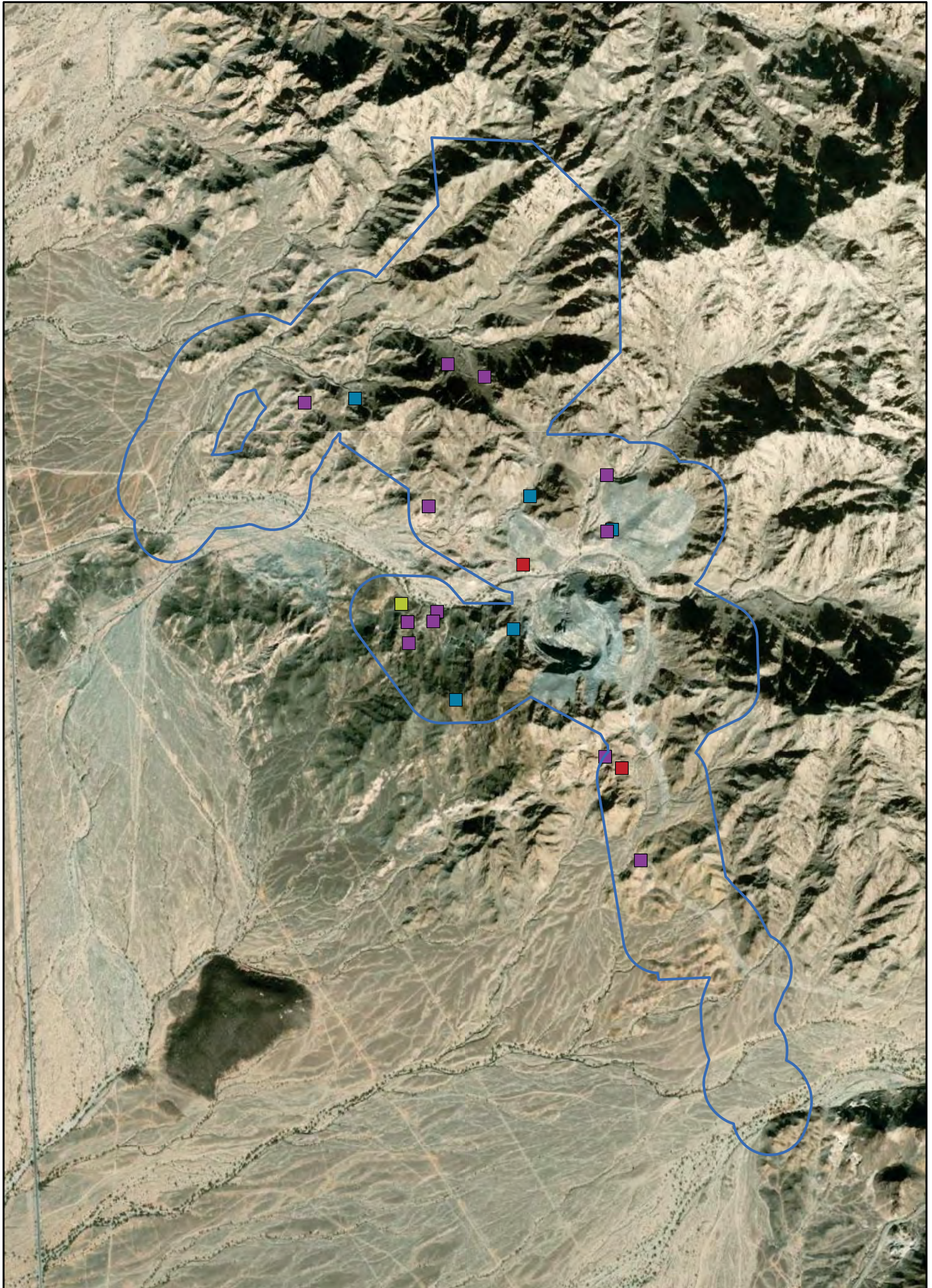
▲ Likely nest

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 Biological Resource Technical Report
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RAPTOR SURVEY AREA

Figure 3





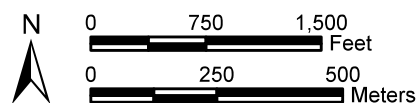
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 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

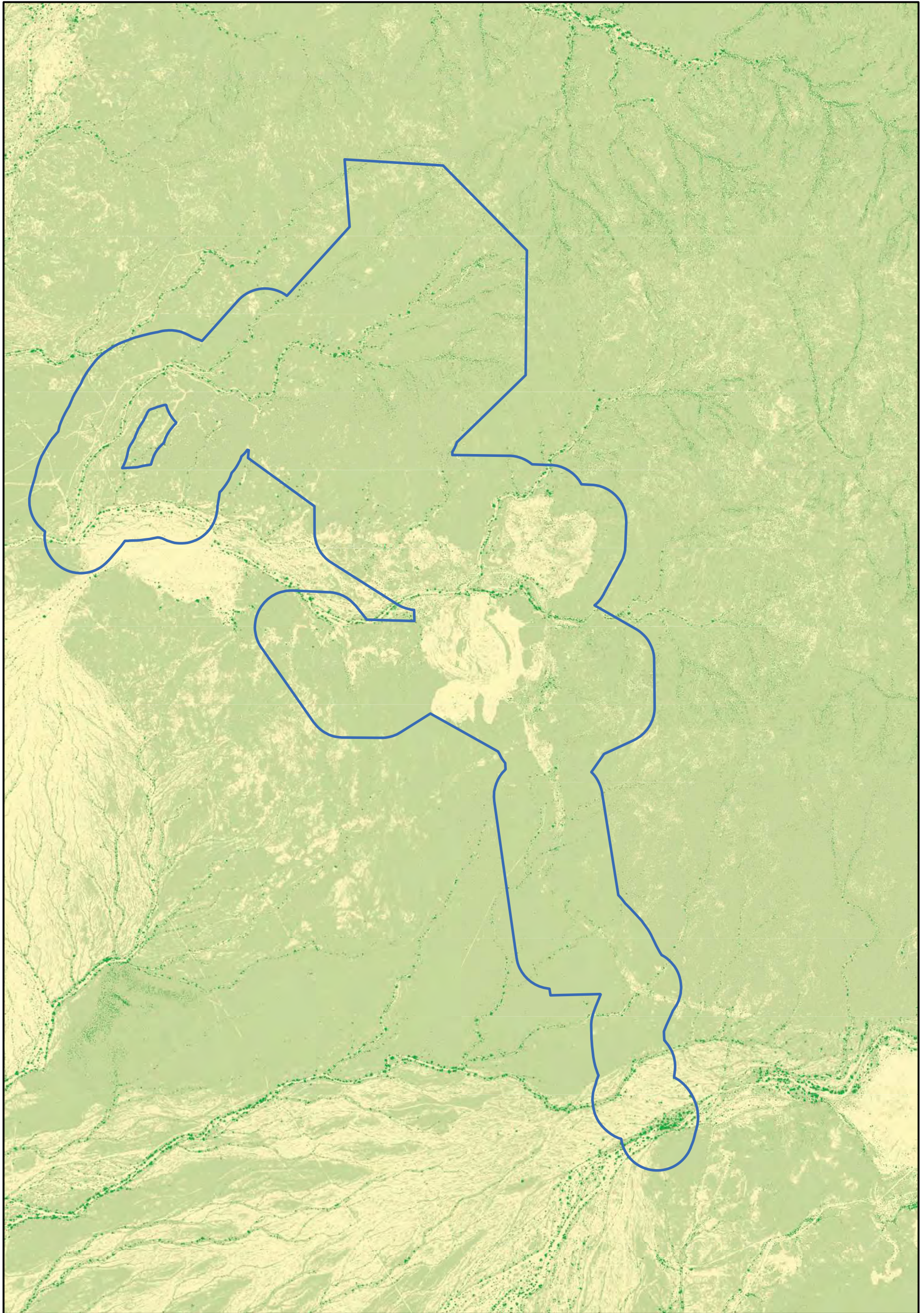
Legend

- Analysis Area
- Bat Species Observed**
- California leaf-nosed bat
- Myotis species
- Myotis species/California leaf-nosed bat
- unknown

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and Assessment

BAT HABITAT ASSESSMENT
 Figure 4





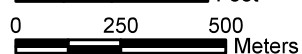
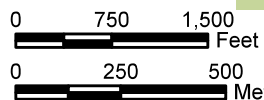
T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Imperial County, California,
 Data Source: SMP
 Image Source: Supervised Classification from NAIP 2020

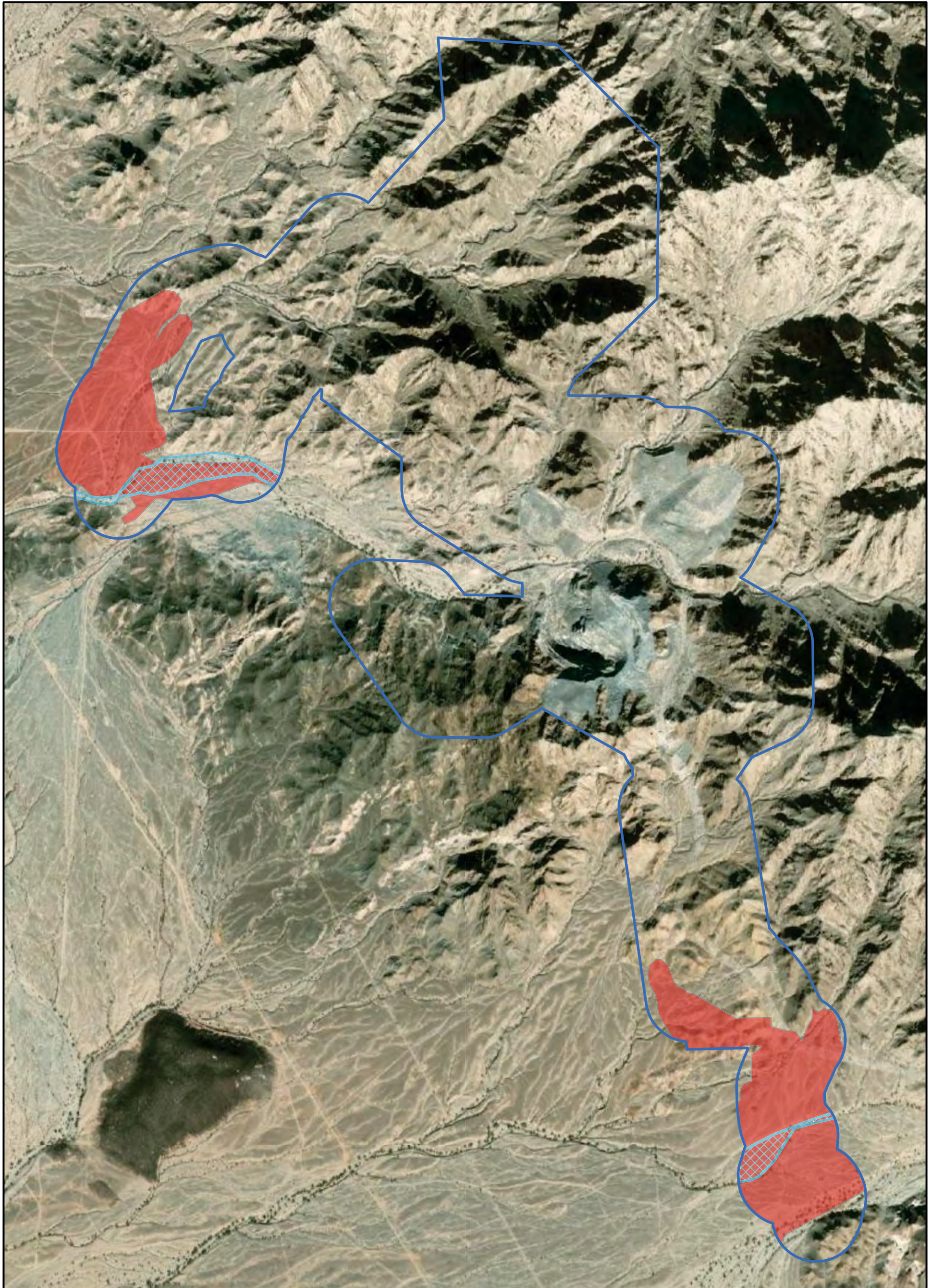
Legend

- Analysis Area
- Brassica (nigra) and other mustards semi-natural stands
- Parkinsonia florida—Olneya tesota alliance
- Larrea tridentata — Encelia farinosa alliance

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
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VEGETATION CLASSIFICATION
 Figure 5





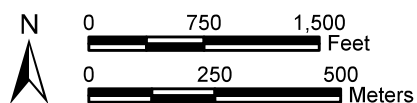
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 T15S, R20E, Portions of Sections 1-3, 10-15, 23-26, 35, and 36,
 T15S, R21E, Portions of Sections 4-9, 16-21, and 28-32,
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

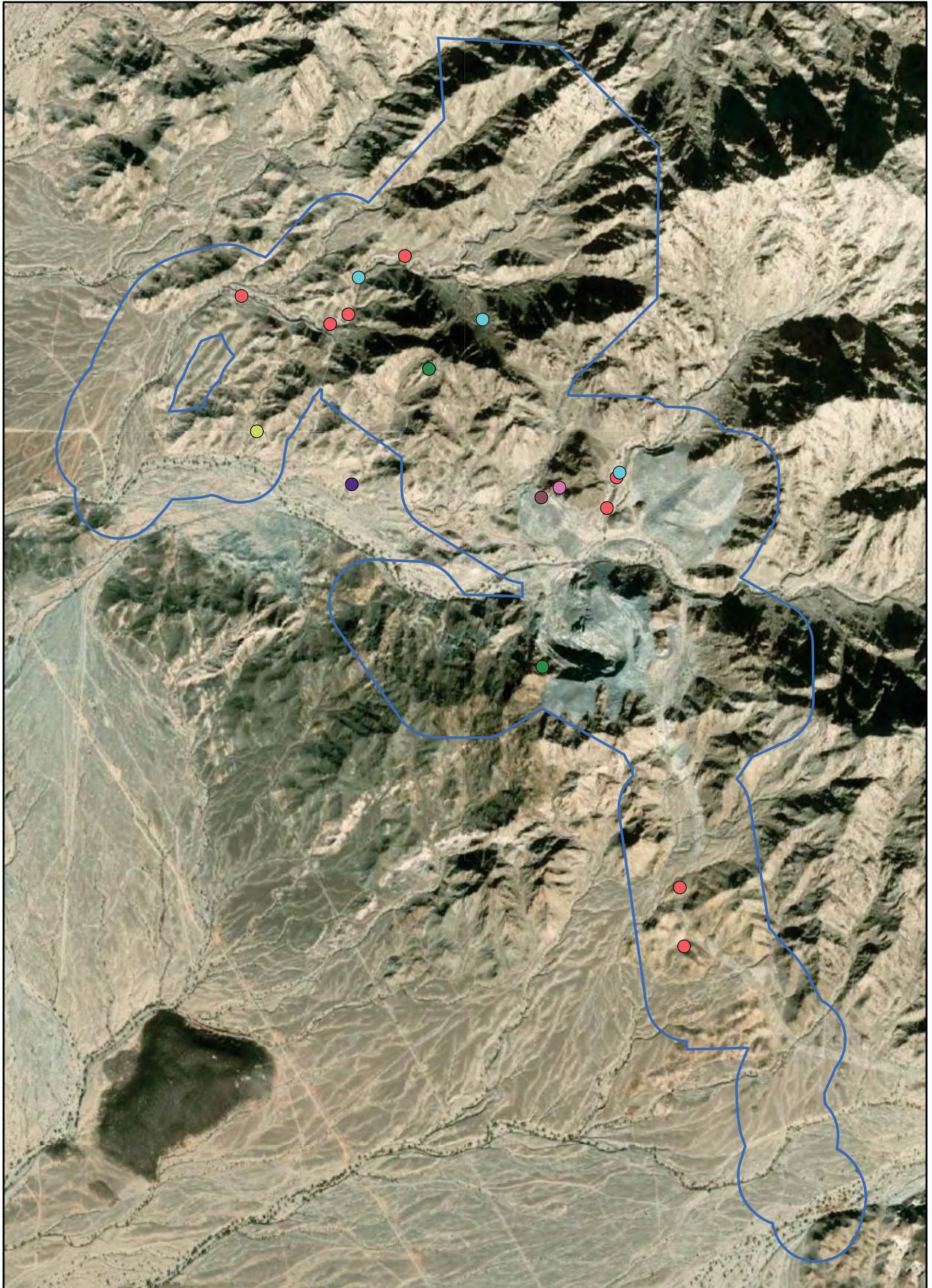
Legend

-  Analysis Area
- Species**
-  Fringe-toed lizard habitat
-  Burrowing owl habitat

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WESTERN BURROWING OWL AND
 COLORADO DESERT FRINGE-TOED LIZARD
 HABITAT ASSESSMENT Figure 6





T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
 Data Source: SMP & Stantec
 CDFW (<https://apps.wildlife.ca.gov/>)
 CNPS (<https://apps.wildlife.ca.gov/>)
 Image Source: ArcGIS Online, World Imagery, 2019

Legend

Analysis Area

Occurrences

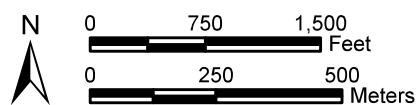
- California leaf-nosed bat
- Pallid bat

- Tortoise Burrow
- Tortoise Scat
- Townsend's big-eared bat
- pink fairy-duster
- western mastiff bat

Oro Cruz Pit Area Exploration Project
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SPECIAL-STATUS SPECIES HISTORICAL
 OCCURRENCE WITHIN THE ANALYSIS AREA

Figure 7



APPENDIX A

Tortoise Survey

DESERT TORTOISE SURVEY REPORT ORO CRUZ PROJECT

Prepared for:

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And

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Stantec Project Number 203722086

February 16, 2021

Sign-off Sheet and Signatures of Environmental Professionals

This document entitled Desert Tortoise Survey Report, Oro Cruz Project was prepared by Stantec Consulting Services Inc. (Stantec) for the account of Southern Empire Resources Corp/SMP Gold Corp. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

All information, conclusions, and recommendations provided by Stantec in this document regarding the Desert Tortoise Report have been prepared by and/or under the supervision of and reviewed by the professionals whose signatures appear below.

Prepared by: _____
Greg Sharp
Environmental Scientist.

A handwritten signature in black ink, appearing to read "Greg Sharp", written over a horizontal line.

Approved by: _____
Benjamin H. Veach,
Principal


A handwritten signature in blue ink, appearing to read "Benjamin H. Veach", written over a horizontal line.

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FIGURES

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APPENDICES

Appendix A	Plants and Wildlife
Appendix B	Datasheets
Appendix C	Photographs

ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Management
GIS	Geographic Information System
GPS	Global Positioning System
NEPA	National Environmental Policy Act
Project	Oro Cruz Drilling Plan Project
Stantec	Stantec Consulting Services Inc.
USFWS	United States Fish and Wildlife Service

1.0 SUMMARY

Stantec Consulting Services Inc. (Stantec) completed a desert tortoise survey of the Oro Cruz Drilling Plan Project (Project), located in Imperial County, California in the historic mining area of Tumco (**Figure 1**). The survey was conducted January 8 through 15, 2021.

The Project consists of seven planned drill exploration areas and associated access roads (Action Area, **Figure 2**). The total acres of surveys conducted in the drill exploration areas was 119.74 and the total miles of access road surveyed was 9.75. Areas of vertical, solid rock; highly-disturbed ground; or mine pits, within the drill areas, were considered unsuitable habitat for desert tortoise and not surveyed. Unsuitable habitat totaled 98.59 acres.

The following items of note were identified during this survey:

Drill Area 1 and associated access

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 2 and associated access

Two tortoise burrows were found, one with scat at the entrance, indicating this is likely an active borrow. Both burrows were in good condition.

Drill Area 3 and associated access

Four tortoise burrows and a piece of scat were found in the drill area. One burrow had tortoise tracks in the front of it and another had scat. All of the burrows are considered active or good condition.

Drill Area 4 and associated access

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 5 and associated access

One piece of tortoise scat was found in the drill area; however, no burrows were located.

Drill Area 6 and associated access

Two tortoise burrows were found in the drill area. One was in good condition; the other was deteriorated but had the correct shape.

Drill Area 7 and associated access

This drill area was highly disturbed and consisted of unsuitable habitat. Access roads were surveyed, and no tortoise or tortoise sign was found.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

2.1 ACTION AREA DESCRIPTION

Stantec Consulting Services Inc. (Stantec) completed a desert tortoise survey of the Oro Cruz Drilling Plan Project (Project), located in Imperial County, California in the historic mining area of Tumco (**Figure 1**). The survey was conducted January 8 through 15, 2021.

The Project consists of seven planned drill exploration areas (218.33 acres) and associated access roads (9.75 miles) (Action Area, **Figure 2**). The Action Area is located within the Cargo Muchacho Mountains which consists of very rugged, eroding, rocky slopes. Mining has occurred in this area since the early 1800s. The most recent mining activity was in the mid to late 1990s. As such, much of the area has been disturbed from mining activities. Off-road vehicle use, recreational vehicle camping, and other outdoor activities have added to the disturbances in the area. Vegetation in the Project is low desert scrub typical of the high temperature region of southeast California.

The Action Area is within Bureau of Land Management (BLM) classified Category 3 desert tortoise habitat, lower quality habitat, and on the edge of tortoise's general distribution in southern California (BLM, 1994). In these areas, the tortoises occur in relatively low numbers. The Action Area is approximately 6.8 miles from United States Fish and Wildlife Service (USFWS)-designated critical habitat and is 2,750 feet south of the designated Colorado Desert Recovery unit (**Figure 1**).

A total of 119.74 acres were surveyed in the seven drill areas and 9.75 miles of access roads were surveyed. There were 98.59 acres within the seven drill areas that were determined to be unsuitable habitat and were not surveyed. These areas consisted of steep vertical cliffs; highly disturbed ground; or mine pits.

2.2 PERSONNEL QUALIFICATIONS

Greg Sharp – B.S. Degree, Fisheries and Wildlife Biology

Mr. Sharp has utilized numerous survey techniques to assess the presence of Threatened, Endangered, Candidate, and Sensitive plant and animal species throughout the western states on private, BLM, and United States Forest Service lands. Mr. Sharp is a certified desert tortoise biologist and has been doing biological surveys in Utah, Nevada, and California for over 20 years. Mr. Sharp has completed tortoise surveys in conjunction with the National Environmental Policy Act (NEPA) process for many large projects in the southwest and in the greater southwestern Utah area.

Seth Topham – B.S. Degree, Natural Resources

Mr. Topham has more than 15 years of experience working as a natural resource biologist/certified desert tortoise biologist in many areas of the western United States. He also has more than 10 years of experience in providing Geographical Information System (GIS) support for various natural resource projects. Mr. Topham has utilized many survey techniques to assess the presence and/or monitor the status of plant and animal species, including many listed as Threatened, Endangered, Candidate, or otherwise considered Sensitive. Mr. Topham has completed numerous tortoise surveys in conjunction with the NEPA process for many large projects in the southwest and in the greater southwestern Utah area.



3.0 METHODS

3.1 TORTOISE SURVEYS

Stantec biologists conducted desert tortoise surveys in the Action Area following the USFWS protocol *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii)* (USFWS, 2019). As required by the protocol, biologists walked parallel transects spaced 10 meters apart to achieve 100 percent coverage of the areas surveyed. The Action Area transects were mapped in GIS and uploaded to Collector, a global positioning system (GPS) application for field data collection, prior to the survey. The Collector application was used to locate and follow the established transect lines in the field. During the survey, special attention was given to the identification of desert tortoise and desert tortoise sign (e.g., burrows, scat, carcasses, etc.). Vegetation and other wildlife species were also identified during the survey. Survey information was recorded on established data sheets.

4.0 RESULTS

4.1 HABITAT

The Action Area is located within the Cargo Muchacho Mountains which consists of very rugged, eroding, rocky slopes. The Action Area is located along the western side of the mountains at an elevation ranging from 500 to 800 feet. Mining has occurred in this area since the early 1800s. The most recent mining activity was in the mid to late 1990s. As such, much of the area has been disturbed from mining activities. Other significant human activity in the area consists of off-road vehicle driving, recreational vehicle camping, and other outdoor activities. Vegetation in the Action Area is typical low desert scrub found in southeast California. Habitat in the Action Area consists of four types: steep slopes, bajadas, desert pavement areas and washes.

Vegetation cover is low but varies from almost zero on the steep rocky slopes and desert pavement to fairly dense in some of the washes and bajadas. Vegetation on the slopes and uplands consists of scattered creosote bush (*Larrea tridentata*), ocotillo (*Fouquieria splendens*), Incienso (*Encelia farinose*) and scattered native grasses. Areas at the beginning of the bajadas and base of steep slopes offered foraging, shade and burrowing areas for desert tortoises. The deep cut washes concentrate rain fall and allow a greater variety of larger shrubs, trees, and ground cover. Dominant vegetation in these washes consisted of ironwood (*Olneya tesota*), mesquite (*Prosopis juliflora*), palo verde (*Cercidium floridum*), and tamarisk (*Tamarix pentandra*). The washes in the area would supply needed forage and shade for the desert tortoise. The wash banks supply areas for caliche caves and burrows. Dominant vegetation in these washes consisted of ironwood, creosote bush, mesquite, palo verde, and tamarisk. A complete list of plants found in the survey area is included in **Appendix A**.

Soils in the Action Area developed from weathered granitic rock and schistose rock substrates. The soils consist of gravelly sands with large amounts of cobble, rock, and boulders. Hill slopes in the Action Area are steep and almost entirely covered in large, weathered rock. Alluvial fans and washes in the area contained the deeper soils and would be considered suitable for tortoise burrowing.

4.1.1 Physical and Biological Features of Critical Desert Tortoise Habitat Described for the Action Area

Although the Action Area is within BLM category III habitat, the area is outside of USFWS designated Critical Habitat (**Figure 1**) but per protocol, the habitat is described below using the physical and biological features for Designated Desert Tortoise Critical Habitat (USFWS 2019).

1. The Action Area provides areas of sufficient space for movement and for tortoise to reside in the area. However, large sections of the Action Area are made up of steep rocky slopes, past mining disturbances and mining pits that would preclude the tortoise from using these areas.
2. The washes, bajadas, and upland areas do support native plant forage for the desert tortoise. Most of the forage species would be found in the washes or bajadas, were soils are better and water would promote plant growth.
3. Suitable burrowing, nesting, and overwintering substrate is restricted in the Action Area to the deep cut washes where soils are deeper and consist of a sandy gravel mixture. Caliche

caves and other shelter sites are also found in these washes. Other deep shelter sites can be found at the base of the rocky steep slopes.

4. Vegetation density is generally low in the Action Area. Shrubs grow large enough to provide shade and shelter but are sparse. The washes in the Action Area do supply a denser tree and shrub cover that provides shade and shelter.
5. The Action Area is being disturbed from an increase in human activities related to recreational use of the area. Also, past mining activities have disturbed much of the Action Area.

4.2 TORTOISE SURVEY

The Action Area is located within 2,750 feet of the Colorado Desert Recovery Unit for the desert tortoise (**Figure 1**). Stantec completed desert tortoise surveys following the USFWS protocol- *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii)* (USFWS 2019). The survey was conducted January 8 through 15, 2021. The survey methods for small projects and linear projects were followed as the Action Area size was less than 500 acres and had linear access routes. The primary purpose of these surveys was to provide information on whether desert tortoises are likely to be present. Small project and linear project surveys can be completed any time of year as they are used to determine if desert tortoises are present in the area based on sign rather than live animals.

As required by the protocol, biologists walked parallel transects spaced 10 meters apart to achieve 100 percent coverage of the area surveyed. Stantec used the datasheet included in the protocol to record all evidence that indicates desert tortoises may be present (e.g., scat, burrows, carcasses, courtship rings, drinking depressions, etc. in addition to live tortoises) (**Appendix B**). The Action Area transects were mapped in GIS and uploaded to the Collector application using a handheld GPS device. The application was used to locate and follow the established transect lines in the field. Temperatures ranged from the mid 40's in the mornings, with afternoon highs ranging in the 70's. Below are the survey findings in the Action Area:

Drill Area 1 and associated access

Drill Area 1 (**Figure 2**) was located almost entirely in the rocky steep slope habitat with approximately half of the area being an open pit (Photos 1-2, 27-28, **Appendix C**). The area was 57.74 acres with 18.28 acres being surveyed as tortoise habitat.

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 2 and associated access

Drill Area 2 (**Figure 2**) was located with approximately half of the area being tortoise habitat and the other half was steep and solid rock. (Photos 3-4, 23, 25, 29, **Appendix C**). The area was 54.84 acres with 34.03 acres being surveyed as tortoise habitat.

Two tortoise burrows were found, one had scat at the entrance (Photos 5, 24, **Appendix C**). All burrows were in good condition (Datasheets, **Appendix B**).

Drill Area 3 and associated access

Drill Area 3 (**Figure 2**) had a large wash that went down the middle of the area with the eastern portion of the area having steep and solid rock. (Photo 6, **Appendix C**). The area was 30.98 acres with 25.90 acres being surveyed as tortoise habitat.

Four tortoise burrows and a piece of scat were found in the drill area (Photos 7-10, **Appendix C**). One burrow had tortoise tracks in the front of it and another had scat. All are considered active or good condition (Datasheets, **Appendix B**).

Drill Area 4 and associated access

Drill Area 4 (**Figure 2**) was located almost entirely in the rocky steep slope habitat (Photos 11-12, 26, **Appendix C**). The area was 20.07 acres with 13.12 acres being surveyed as tortoise habitat.

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 5 and associated access

Drill Area 5 (**Figure 2**) was located almost entirely in the rocky steep slope habitat (Photo 13, **Appendix C**). The area was 9.24 acres with 3.44 acres being surveyed as tortoise habitat.

One piece of tortoise scat was found in the drill area (Datasheets, **Appendix B**, Photo 14, **Appendix C**).

Drill Area 6 and associated access

Drill Area 6 (**Figure 2**) was located in an old, reclaimed haul route and included some rocky hills and bajada areas (Photo 15, **Appendix C**). The area was 24.98 acres with 100 percent being surveyed as tortoise habitat.

Two tortoise burrows were found in this drill area (Photo 16-17, **Appendix C**). One was in good condition the other was deteriorated but had the correct shape (datasheets, **Appendix B**).

Drill Area 7 and associated access

Drill Area 7 (**Figure 2**) was located entirely in a mine waste dump area and was not surveyed as tortoise habitat. Access roads were surveyed (Photos 30-31, **Appendix C**).

No tortoise or tortoise sign was found in the associated accesses.

4.3 GENERAL WILDLIFE OBSERVATIONS

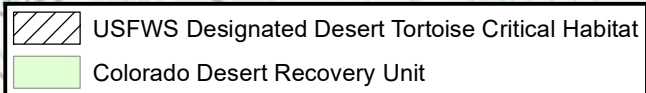
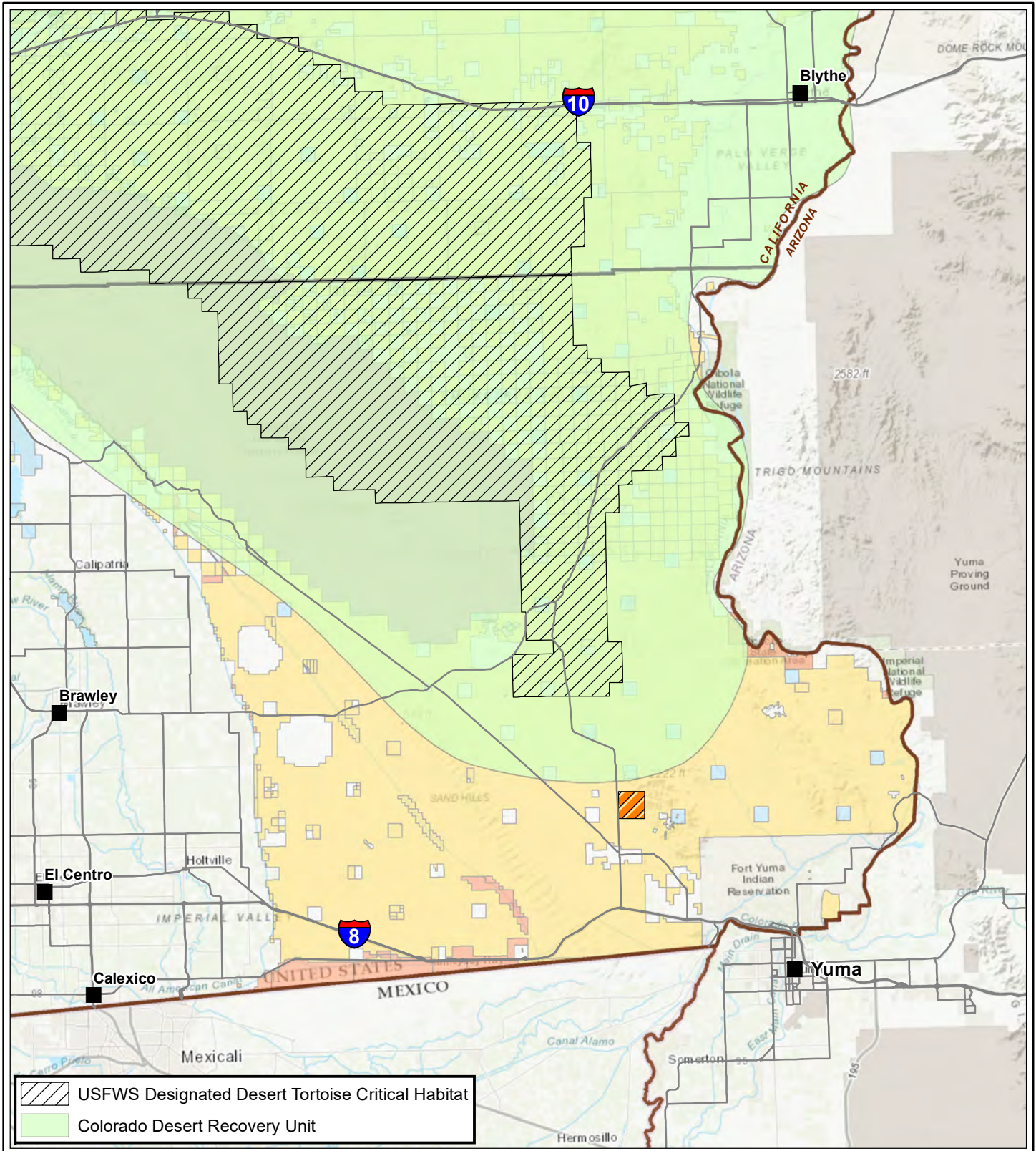
During the survey, observations were made of other wildlife species found or their sign (scat or tracks) and included many typical desert species of birds, reptiles, and mammals. A complete list is located in **Appendix A**

5.0 REFERENCES

Bureau of Land Management (BLM). 1994. Oro Cruz Operation of the American Girl Mining Project: Environmental Impact Statement. El Centro Resource Area. El Centro, California.

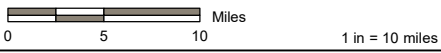
United States Fish and Wildlife Service (USFWS). 2019. Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (*Gopherus agassizii*). Ventura Office. Ventura, California.

FIGURES



Legend

- Project Location
- Land Status**
- Bureau of Land Management
- Private
- State Lands
- Bureau of Reclamation
- Department of Defense



Southern Empire Resources
SMP Gold Corp.
Oro Cruz Project Tortoise Survey

Imperial County, CA
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: CJ	2ND REVIEW: BV
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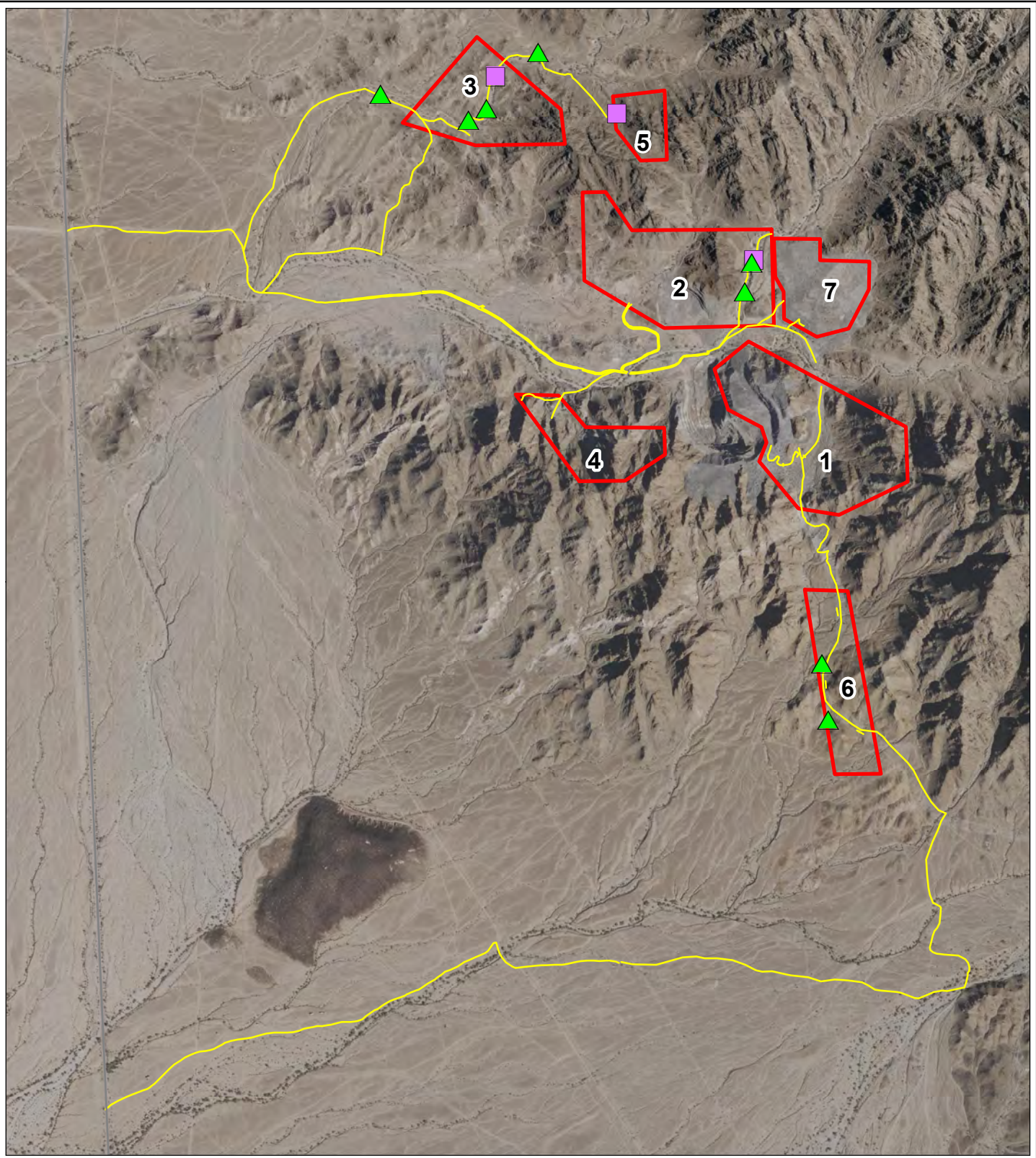
DATE: 2/1/2021	PROJECT NO: 203722086
----------------	-----------------------

**Figure 1
Project Location**



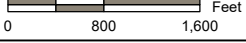
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

V:\2037\Active\203722086\03_data\gis_cad\gimaps\Figure_1_Project_Location_v2_8x11P.mxd Revised: 2021-02-01 By: chrjohson

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, incrementP Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox, and the GIS User Community



V:\2037\Active\203722086\03_data\gis_cad\fig\mxd\Figure_2_Survey_Results_Map_Bk11P.mxd Revised: 2021-02-01 By: chjohnson

<p>Legend</p> <ul style="list-style-type: none"> Drill Areas Access Roads ▲ Tortoise Burrow ■ Tortoise Scat 	   1 in = 1,600 feet	<p>Southern Empire Resources SMP Gold Corp. Oro Cruz Project Tortoise Survey</p>						
<p>Imperial County, CA NAD 1983 UTM Zone 11N</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">DRAWN BY: JT</td> <td style="width: 33%;">1ST REVIEW: CJ</td> <td style="width: 33%;">2ND REVIEW: BV</td> </tr> <tr> <td colspan="2">DATE: 2/1/2021</td> <td>PROJECT NO: 203722086</td> </tr> </table>		DRAWN BY: JT	1ST REVIEW: CJ	2ND REVIEW: BV	DATE: 2/1/2021		PROJECT NO: 203722086	<p>Figure 2 Survey Results</p>
DRAWN BY: JT	1ST REVIEW: CJ	2ND REVIEW: BV						
DATE: 2/1/2021		PROJECT NO: 203722086						

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Service Layer Credits: Esri, USDA Farm Service Agency

APPENDIX A

Plants and Wildlife

Common Name	Genus	Species
Plants		
catclaw	<i>Acacia</i>	<i>greggii</i>
Burrow bush	<i>Ambrosia</i>	<i>dumosa</i>
devil's lettuce	<i>Amsinckia</i>	<i>tessellata</i>
palo verde	<i>Cercidium</i>	<i>floridum</i>
devil's spine flower	<i>Chorizanthe</i>	<i>rigida</i>
wingnut cryptantha	<i>Cryptantha</i>	<i>pterocarya</i>
inciensio	<i>Encelia</i>	<i>farinosa</i>
desert trumpet	<i>Eriogonum</i>	<i>Inflatum</i>
buckwheat	<i>Eriogonum</i>	<i>deflexum</i>
barrel cactus	<i>Ferocactus</i>	<i>acanthodes</i>
ocotillo	<i>Fouquieria</i>	<i>splendens</i>
hopsage	<i>Grayia</i>	<i>spinosa</i>
range ratany	<i>Krameria</i>	<i>grayi</i>
creosote	<i>Larrea</i>	<i>tridentata</i>
desert pepperweed	<i>Lepidium</i>	<i>fremontii</i>
beaver tail cactus	<i>Opuntia</i>	<i>basilaris</i>
golden cholla	<i>Opuntia</i>	<i>acanthocarpa</i>
desert plantain	<i>Plantago</i>	<i>insularis</i>
mesquite	<i>Prosopis</i>	<i>juliflora</i>
nipple cactus	<i>Mammillaria</i>	<i>acanthocarpa</i>
clump grass	<i>Shismus</i>	<i>arabicus</i>
globemallow	<i>Sphaeralcea</i>	<i>emoryi</i>
Birds		
black-tailed gnatcatcher	<i>Polioptila</i>	<i>melanura</i>
black-throated sparrow	<i>Amphispiza</i>	<i>billineata</i>
Costa's hummingbird	<i>Calypte</i>	<i>costae</i>
Gambel's quail	<i>Callipepla</i>	<i>gambelii</i>
ladder-backed woodpecker	<i>Picoides</i>	<i>scalaris</i>
loggerhead shrike	<i>Lanius</i>	<i>ludovicianus</i>
mourning dove	<i>Zenaida</i>	<i>macroura</i>
peregrine falcon	<i>Falco</i>	<i>peregrinus</i>
phainopepla	<i>Phainopepla</i>	<i>nitens</i>
red-tailed hawk	<i>Buteo</i>	<i>jamaicensis</i>
rock wren	<i>Salpinctes</i>	<i>obsoletus</i>
Say's phoebe	<i>Sayornis</i>	<i>saya</i>
turkey vulture	<i>Cathartes</i>	<i>aura</i>
Mammals		
antelope ground squirrel	<i>Ammospermophilus</i>	<i>leucurus</i>
mule deer	<i>Odocoileus</i>	<i>hemionus</i>
Reptiles		
desert tortoise	<i>Gopherus</i>	<i>agassizii</i>
Side-blotched lizard	<i>Uta</i>	<i>stansburiana</i>

APPENDIX B

Datasheets

Drill Area 2

Version: October 26, 2018

Date of survey: 17/01/2021 Survey biologist(s): Seán.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: 011B/HE20ES Location: 704285, 3604260 NAD 83 ZU
(UTM coordinates, lat-long, and/or UTM; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 37Ac Transect #: ARC-23-117 Transect length: 114

GPS Start-point: 704546, 3640367 231m Start time: 9:12 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704510, 3640370 End time: 9:20 am/pm
(easting, northing, elevation in meters)

Start Temp: 65 °C End Temp: 65 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(In burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704557 3640260</u>	<u>Scat S3</u>	<u>2 pieces</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 2

Version: October 26, 2018

Date of survey: 14/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: 05181/4E02ES Location: 704225, 3607260 NAD83 Z 11
(UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 54.84 Transect #: 02 Transect length: _____

GPS Start-point: 704615, 3640310 230m Start time: 10:06 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704393, 3639937, 215m End time: 10:33 am/pm
(easting, northing, elevation in meters)

Start Temp: 26 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow, all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥ 180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704545 3640252</u>	<u>Burrow</u>	<u>SCAT (S2)</u>
2	<u>704522 3646147</u>	<u>Burrow</u>	<u>NO OTHER SIGN.</u>
3			
4			
5			
6			
7			
8			

DAZ - EAST - ACCESS - SWIM SIDE

PHOTOS SAY EAST Tr.

Drill Area 3

Version: October 26, 2018

Date of survey: 10/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: Hodges Location: 703328 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 2d width Transect #: 703328 Transect length: 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)

GPS Start-point: 702152 3640376 176m Start time: 0845 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704075 3640757 233m End time: 1000 am/pm
(easting, northing, elevation in meters)

Start Temp: 55 °C End Temp: 68 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

None

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>703647 3640908</u>	<u>scat</u>	<u>1 piece, S 2 cand.</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 3

Version: October 26, 2018

Date of survey: 10/01/2021 Survey biologist(s): Seth.topham@stantec.com 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: HDDLES Location: 702152, 3640376 NAD83 Z11
(UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 2000 w. DTH transect #: TUNED N transect length: _____

GPS Start-point: 704075, 3640752 233 m Start time: 8:53 am/pm
(easting, northing, elevation in meters)

GPS End-point: 702152, 3640376 176 m End time: 10:30 am/pm
(easting, northing, elevation in meters)

Start Temp: 55 °F End Temp: 60 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	703793 3640944	Burrow	TRACKS
2	703612 3640793	Burrow	SCAT
3	703548 3640754	Burrow	SCAT
4	703238 3640854	Burrow	GOOD CONDITION
5			
6			
7			
8			

Drill Area 5

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: Hodges Location: 703328 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 31 Transect #: 075-2N-17 Transect length: 17

GPS Start-point: 704077 3640834 Start time: 1944 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704075 3640715 End time: 1700 am/pm
(easting, northing, elevation in meters)

Start Temp: 55 °C End Temp: 75 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	704077 3640776	Scat	52 cont., 1 piece
2			
3			
4			
5			
6			
7			
8			

Drill Area 6

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)
 Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)
 County: Imperial County, CA Quad: Gilby Location: 704864 3638784
(UTM coordinates, lat-long, and/or TRS, map datum)
 Circle one: 100% coverage of Sampling Area size to be surveyed: 25 Transect #: D126-N5-84 Transect length: 1658
 GPS Start-point: 704817 3638601 Start time: 1355 am/pm
(easting, northing, elevation in meters)
 GPS End-point: 704817 3639092 End time: 1420 am/pm
(easting, northing, elevation in meters)
 Start Temp: 70 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704816 3638601</u>	<u>Burrow</u>	<u>NO OTHER SIGN</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 6

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size, general location)

County: Imperial County, CA Quad: N2E2 Location: 701804, 3038754 NAD 83-21
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 25 Ac Transect #: NS-80 Transect length: 384

GPS Start-point: 704797, 3039095 203 m Start time: 2:23 am/pm

GPS End-point: 704795, 3038724 193 m End time: 2:53 am/pm

Start Temp: 70 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704793 3038839</u>	<u>Burrow</u>	<u>SCAT PRESENT</u>
2			
3			
4			
5			
6			
7			
8			

APPENDIX C

Photographs



Photo 1: Drill Area 1, general view of suitable desert tortoise habitat surveyed.



Photo 2: Drill Area 1, general view of un-suitable desert tortoise habitat not surveyed.



Photo 3: Drill Area 2, general view of suitable desert tortoise habitat surveyed.



Photo 4: Drill Area 2, general view of un-suitable desert tortoise habitat not surveyed.



Photo 5: Drill Area 2, desert tortoise scat.



Photo 6: Drill Area 3, general view of suitable desert tortoise habitat surveyed.



Photo 7: Drill Area 3, desert tortoise burrow with old desert tortoise scat and old tracks.



Photo 8: Drill Area 3, desert tortoise burrow with desert tortoise scat.



Photo 9: Drill Area 3, desert tortoise burrow.



Photo 10: Drill Area 3, desert tortoise scat.



Photo 11: Drill Area 4, general view of suitable desert tortoise habitat surveyed.



Photo 12: Drill Area 4, general view of unsuitable desert tortoise habitat not surveyed.



Photo 13: Drill Area 5, general view of suitable desert tortoise habitat surveyed.



Photo 14: Drill Area 5, desert tortoise scat.



Photo 15: Drill Area 6, general view of suitable desert tortoise habitat surveyed.



Photo 16: Drill Area 6, desert tortoise burrow.



Photo 17: Drill Area 6, desert tortoise burrow (desert tortoise scat was present).



Photo 18: Portion of Access Tumco, general view of suitable desert tortoise habitat surveyed.



Photo 19: Access Road Tumco, desert tortoise burrow.



Photo 20: Portion of Access Tumco Gate Fork, general view of suitable desert tortoise habitat surveyed.



Photo 21: Portion of Access Tumco Main, general view of suitable desert tortoise habitat surveyed.



Photo 22: Portion of Access DH6 Main, general view of suitable desert tortoise habitat surveyed.



Photo 23: Portion of Access DH2, general view of suitable desert tortoise habitat surveyed.



Photo 24: Access DH2, desert tortoise burrow with desert tortoise scat.



Photo 25: Access DH2, desert tortoise burrow.



Photo 26: Portion of Access DH4, general view of suitable desert tortoise habitat surveyed.



Photo 27: Portion of Access DH1, general view of suitable desert tortoise habitat surveyed.



Photo 28: Portion of Access DH1 Access Spur, un-suitable desert tortoise habitat.



Photo 29: Portion of Access DH2 Alt Access, general view of suitable desert tortoise habitat surveyed.



Photo 30: Portion of Access DH7 Access East 1, general view.



Photo 31: Portion of Access DH7 East 2, general view of suitable desert tortoise habitat surveyed.

APPENDIX B

IPaC Screening



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
<http://www.fws.gov/carlsbad/>

In Reply Refer To:

March 05, 2021

Consultation Code: 08ECAR00-2021-SLI-0703

Event Code: 08ECAR00-2021-E-01567

Project Name: Oro Cruz

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

<http://>

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2021-SLI-0703

Event Code: 08ECAR00-2021-E-01567

Project Name: Oro Cruz

Project Type: MINING

Project Description: Mine

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.8735665,-114.81136953158614,14z>



Counties: Imperial County, California

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX C

BLM El Centro Sensitive Species

All BLM CALIFORNIA SPECIAL STATUS PLANTS

Thursday, May 28, 2015

11:00:38 AM

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH	
<i>Abronia umbellata var. breviflora</i>	pink sand-verbena	VASC	Nyctaginaceae			BLMS	1B.1		G4G5T2	S1		No	29-Apr-13	Formerly subsp. <i>breviflora</i> (Standl.) Munz.		K														
<i>Abronia villosa var. aurita</i>	chaparral sand-verbena	VASC	Nyctaginaceae			BLMS	1B.1		G5T3T4	S2		No	06-Aug-13	CNDDDB occurrences 2 and 91 are on BLM lands in the Palm Springs Field Office.							S									
<i>Acanthomintha ilicifolia</i>	San Diego thornmint	VASC	Lamiaceae	FT	SE		1B.1		G1	S2		No	12-Mar-15	Status changed from "K" to "S" on 8/6/2013. Naomi Fraga was unable to find the species on BLM lands when trying to collect seeds in 2012. Although there are several CNDDDB occurrences close to BLM lands, none of these actually intersect with BLM lands.																
<i>Acanthoscyphus parishii var. goodmaniana</i>	Cushenberry oxytheca	VASC	Polygonaceae	FE			1B.1		G4?T1	S1		No	06-Aug-13	Formerly <i>Oxytheca parishii</i> var. <i>goodmaniana</i> . Name change based on Reveal, J.L. 2004. Nomenclatural summary of Polygonaceae subfamily Eriogonoideae. Harvard Papers in Botany 9(1):144. A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.				K												
<i>Acmispon argyraeus var. multicaulis</i>	scrub lotus	VASC	Fabaceae			BLMS	1B.3		G4?T2	S2		No	13-Sep-12	Formerly <i>Lotus argyraeus</i> (Greene) Greene var. <i>multicaulis</i> (Ottley) Isely. Occurs on BLM lands in vicinity of Dinosaur Trackway ACEC. Occurrence there discovered in 2008 acc. Jim Weigand.																
<i>Acmispon rubriflorus</i>	red-flowered lotus	VASC	Fabaceae			BLMS	1B.1		G1	S1		No	16-Nov-10	Formerly <i>Lotus rubriflorus</i> H.K. Sharsm.																

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<i>Agave utahensis var. eborispina</i>	ivory-spined agave	VASC	Agavaceae			BLMS	1B.3		G4T3Q	S2		No	08-Dec-10	Added to list on 12/8/2010. Species documented in April 2010 as part of CNPS Rare Plant Treasure Hunt on limestone outcrops in Chicago Canyon, Nopah Range, at a location where it was first discovered in 1978 (CNDDDB Occurrence No. 4). Other older locations are also on BLM lands.				K												
<i>Agrostis blasdalei</i>	Blasdale's bent grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	29-Apr-13	On Shell Island off of Sea Ranch, Sonoma County, part of the California Coastal National Monument (source: Jim Weigand). Also suspected on the Stornetta Unit because it is known from closeby at Manchester State Beach (Jim Weigand, 2/3/2015).																K
<i>Agrostis hooveri</i>	Hoover's bent grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	29-Apr-13				K													
<i>Agrostis lacuna-vernalis</i>	vernal pool bent grass	VASC	Poaceae			BLMS	1B.1		G1	S1		No	18-Sep-12	New species added as California Rare Plant Rank 1B.1 on 6-14-2012. Known only from Butterfly Valley and Machine Gun Flats in the Fort Ord National Monument and adjacent Army lands.							K									
<i>Albatrellus caeruleoporus</i>	blue-pored polypore	FUNG	Albatrellaceae			BLMS			G3?	S1		No	16-Nov-10	G and S Heritage Rankings are from Oregon Natural Heritage Information Center 2007.		S														
<i>Albatrellus ellisii</i>	greening goat's foot	FUNG	Albatrellaceae			BLMS			G4	S2S3		No	16-Nov-10	G and S Heritage Rankings are from Oregon Natural Heritage Information Center 2007.		S														
<i>Albatrellus flettii</i>	blue-capped polypore	FUNG	Albatrellaceae			BLMS			None	None		No	16-Nov-10			S														
<i>Allium hickmanii</i>	Hickman's onion	VASC	Alliaceae			BLMS	1B.2		G2	S2		No	29-Apr-13	Fort Ord. Added based on 9/9/08 email from Bruce Delgado								K								
<i>Allium jepsonii</i>	Jepson's onion	VASC	Alliaceae			BLMS	1B.2		G1	S1		No	15-Nov-10										K		S					
<i>Allium munzii</i>	Munz's onion	VASC	Alliaceae	FE	ST		1B.1		G1	S1		No	13-Sep-12											S						
<i>Allium shevockii</i>	Spanish Needle onion	VASC	Alliaceae			BLMS	1B.3		G2	S2		No	15-Nov-10	Southern Sierra Nevada.			K										K			

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<i>Allium tuolumense</i>	Rawhide Hill onion	VASC	Alliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12										K								
<i>Ambrosia pumila</i>	San Diego ambrosia	VASC	Asteraceae	FE			1B.1		G1	S1		No	06-Aug-13	CNDDDB Occurrence 54 is based on a 2005 collection by Salvato (UCR167870). CNDDDB shows BLM as the land owner and most of the mapped 2/5 mile radius circle is BLM. On the basis of this occurrence the status was changed from "S" to "K" on 8/6/2013.																K	
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	VASC	Boraginaceae			BLMS	1B.2		G2?	S2?		No	13-Sep-12	Walker Ridge/Bear Creek (Source: Jim Weigand). Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).															S		K
<i>Ancistrocarphus keilii</i>	Santa Ynez groundstar	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	15-Nov-10				S														
<i>Anisocarpus scabridus</i>	scabrid alpine tarplant	VASC	Asteraceae			BLMS	1B.3		G2G3	S2S3		No	15-Nov-10																	S	
<i>Arabis mcdonaldiana</i>	McDonald's rock-cress	VASC	Brassicaceae	FE	SE		1B.1		G2	S2		Yes	13-Sep-12	Name change from <i>Arabis mcdonaldiana</i> to <i>Arabis mcdonaldiana</i> as of March 3, 2011.		K															
<i>Arctostaphylos bakeri subsp. sublaevis</i>	The Cedars manzanita	VASC	Ericaceae			BLMS	1B.2		G2T2	S2		No	23-Oct-12	CNDDDB occurrence 1 on BLM and pvt lands at The Cedars. Headwaters of Big Austin Creek and East Austin Creek. 10,000's of plants according to CNDDDB.																K	

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<i>Arctostaphylos canescens</i> <i>subsp. sonomensis</i>	Sonoma canescent manzanita	VASC	Ericaceae			BLMS	1B.2		G3G4T2	S2		No	31-Mar-15	Walker Ridge/Bear Creek (Source: Jim Weigand). Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).																K
<i>Arctostaphylos cruzensis</i>	Arroya de La Cruz manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	31-Mar-15								S									
<i>Arctostaphylos glandulosa</i> <i>ssp. gabrielensis</i>	Gabilan Mountains manzanita	VASC	Ericaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12	Name change from <i>Arctostaphylos gabrielensis</i> to <i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i> as of August 23, 2010							S									
<i>Arctostaphylos hookeri</i> <i>subsp. hookeri</i>	Hooker's manzanita	VASC	Ericaceae			BLMS	1B.2		G3T2	S2		No	31-Mar-15									K								
<i>Arctostaphylos klamathensis</i>	Klamath manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	31-Mar-15													S				
<i>Arctostaphylos montereyensis</i>	Monterey manzanita	VASC	Ericaceae			BLMS	1B.2		G2?	S2?		No	31-Mar-15	Fort Ord.								K								
<i>Arctostaphylos morroensis</i>	Morro manzanita	VASC	Ericaceae	FT			1B.1		G2	S2		Yes	13-Sep-12				K													
<i>Arctostaphylos myrtifolia</i>	lone manzanita	VASC	Ericaceae	FT			1B.2		G2	S2		No	13-Sep-12										K							
<i>Arctostaphylos nissenana</i>	Nissenan manzanita	VASC	Ericaceae			BLMS	1B.2		G1	S1		No	31-Mar-15										K							
<i>Arctostaphylos otayensis</i>	Otay manzanita	VASC	Ericaceae			BLMS	1B.2		G2	S2		No	31-Mar-15												K					
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	VASC	Ericaceae			BLMS	1B.1		G1	S1		No	31-Mar-15	Fort Ord. Added based on 9/9/08 email from Bruce Delgado.								K								
<i>Arctostaphylos pilosula</i>	Santa Margarita manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	13-Sep-12				K													
<i>Arctostaphylos pumila</i>	sandmat manzanita	VASC	Ericaceae			BLMS	1B.2		G1	S1		No	31-Mar-15									K								

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<i>Arctostaphylos rainbowensis</i>	rainbow manzanita	VASC	Ericaceae			BLMS	1B.1		G2	S2		No	31-Mar-15	CNDDDB Occurrence 43 is on BLM lands in Riverside County. Occurrence 56, is based on a 2005 collection by Woelfel and Woelfel, who claim it was collected on BLM lands in San Diego County, but CNDDDB maps it as a 1/5 mile radius circle, some of which is BLM and some of which is private. Some other occurrences are close to but not on BLM lands.																	K		
<i>Arctostaphylos rudis</i>	sand mesa manzanita	VASC	Ericaceae			BLMS	1B.2		G2	S2		No	31-Mar-15				K																
<i>Aristocapsa insignis</i>	Indian Valley spineflower	VASC	Polygonaceae			BLMS	1B.2		G2?	S2?		No	31-Mar-15				S																
<i>Astragalus agnicidus</i>	Humboldt milk-vetch	VASC	Fabaceae		SE	BLMS	1B.1		G3	S3		No	13-Sep-12			S																	
<i>Astragalus agrestis</i>	field milk-vetch	VASC	Fabaceae			BLMS	2.B2		G5	S2?		No	31-Mar-15	This species is rather widespread elsewhere, so the primary value of this population is its disjunct location in CA, and maintaining the genetic viability of the species across its range.	K				K														
<i>Astragalus albens</i>	Cushenberry milk-vetch	VASC	Fabaceae	FE			1B.1		G1	S1		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.				K															
<i>Astragalus anxius</i>	Ash Valley milk-vetch	VASC	Fabaceae			BLMS	1B.3		G1	S1		No		In Ash Valley ACEC/RNA.	K																		
<i>Astragalus argophyllus</i> var. <i>argophyllus</i>	silverleaf milk-vetch	VASC	Fabaceae			BLMS	2B.2		G5T4	S1		No	31-Mar-15					K	K														
<i>Astragalus atratus</i> var. <i>mensanus</i>	Darwin Mesa milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4G5T1	S1		No	13-Sep-12	On Darwin Mesa.													K						
<i>Astragalus bernardinus</i>	San Bernardino Milk-Vetch	VASC	Fabaceae			BLMS	1B.2		G2G3	S2S3		No	06-Aug-13	Currently shown in Little San Bernardino Mountains, Little San Bernardino Mountains, New York Mountains, and Big Horn Mountains. There are 33 known occurrences in CNDDDB, 12 between 1992 and 2011.				K															

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<i>Astragalus brauntonii</i>	Braunton's milk-vetch	VASC	Fabaceae	FE			1B.1		G2	S2		Yes	13-Sep-12											S						
<i>Astragalus cimae var. sufflatus</i>	inflated Cima milk-vetch	VASC	Fabaceae			BLMS	1B.3		G3T3	S3		No	31-Mar-15	CNDDDB Occurrence number 2 is on BLM lands within the new boundary of the Cerro Gordo/Conglomerate Mesa ACEC.												K				
<i>Astragalus deanei</i>	Deane's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G1	S1		No	31-Mar-15																	
<i>Astragalus douglasii var. perstrictus</i>	Jacumba milk-vetch	VASC	Fabaceae			BLMS	1B.2		G5T2?	S2?		No	31-Mar-15																	
<i>Astragalus ertterae</i>	Walker Pass milk-vetch	VASC	Fabaceae			BLMS	1B.3		G2	S2		No				K											K			
<i>Astragalus funereus</i>	black milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2	S2.2		No					K													
<i>Astragalus hornii var. hornii</i>	Horn's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4G5T2 T3	S1		No	13-Sep-12			K														
<i>Astragalus jaegerianus</i>	Lane Mtn. milk-vetch	VASC	Fabaceae	FE			1B.1		G1	S1		No	13-Sep-12				K													
<i>Astragalus johannis-howellii</i>	Long Valley milkvetch	VASC	Fabaceae		SR	BLMS	1B.2		G2	S2		No	31-Mar-15					K												
<i>Astragalus lemmonii</i>	Lemmon's milk-vetch	VASC	Fabaceae			BLMS	1B.2	W	G2	S2		No	13-Sep-12							S										
<i>Astragalus lentiformis</i>	lens-pod milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2	S2		No								K										
<i>Astragalus lentiginosus var. coachellae</i>	Coachella Valley milk-vetch	VASC	Fabaceae	FE			1B.2		G5T1	S1		No	31-Mar-15															K		
<i>Astragalus lentiginosus var. piscinensis</i>	Fish Slough milk-vetch	VASC	Fabaceae	FT			1B.1		G5T1	S1		Yes	13-Sep-12					K												
<i>Astragalus magdalenae var. peirsonii</i>	Peirson's milk-vetch	VASC	Fabaceae	FT	SE		1B.2		G3G4T2	S2		No	13-Sep-12								K									
<i>Astragalus mojavensis var. hemigyus</i>	curved-pod milkvetch	VASC	Fabaceae			BLMS	1B.1		G3G4T2 T3	S1		No	15-Nov-10	Formerly on List 1A. Rediscovered on Darwin Mesa by Dana York in 2001 and verified in 2009.														K		
<i>Astragalus monoensis</i>	Mono milk-vetch	VASC	Fabaceae		SR	BLMS	1B.2		G2	S2		No	31-Mar-15	Was <i>A. monoensis</i> var. <i>monoensis</i> until the former <i>A. m.</i> var. <i>ravenii</i> was elevated to its own species (<i>A. ravenii</i> Barneby).					K											

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<i>Astragalus nyensis</i>	Nye milk-vetch	VASC	Fabaceae			BLMS	1B.1		G3	S1		No	18-Sep-12	CNDDDB mapped 19 specific occurrences of this species found during surveys for a private solar development project in 2011. Specific occurrence number 2 is mapped on BLM lands (occurrence rating poor, only 1 plant found). Although the records in RareFind for occurrences 9 and 13 state that those occurrences occupy both private and BLM lands, both occurrences are mapped only on private lands.				K														
<i>Astragalus oocarpus</i>	San Diego rattleweed	VASC	Fabaceae			BLMS	1B.2		G3	S3		No	31-Mar-15																		K	
<i>Astragalus oophorus var. lavinii</i>	Lavin's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T2	S1		No	15-Nov-10	Bodie Hills.					K													
<i>Astragalus pachypus var. jaegeri</i>	Jaeger's bush milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4T1	S1		No	30-Jul-13	CNDDDB Occurrence 43, in Riverside County, is nonspecific, mapped in a 1 mile radius circle that includes BLM, State, and private lands; it is based on old (1880 and 1881) collections. Nonspecific Occurrence 6, also in Riverside County, has some BLM lands mapped inside a 1 mile radius circle, but most lands in the circle are private.																		S
<i>Astragalus pseudiodanthus</i>	Tonopah milk-vetch	VASC	Fabaceae			BLMS	1B.2		G3Q	S2		No	31-Mar-15						K													
<i>Astragalus pulsiferae var. pulsiferae</i>	Pulsifer's milk-vetch	VASC	Fabaceae			BLMS	1B.2	W	G4T2	S2 in CA; S1 in NV		No								K												

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<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>	Suksdorf's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Occurrences formerly attributed to this species in the northern part of its range (formerly K in Alturas and Eagle Lake) are now <i>A. pulsiferae</i> var. <i>coronensis</i> [Welsh, S.L., R. Ondricek, and G. Clifton 2002. Varieties of <i>Astragalus pulsiferae</i> (Leguminosae). Rhodora 104:271-279]. Suspected in the Eagle Lake Field Office on conifer sites near Lake Almanor.						S									
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15			K													
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T3	S3		No	13-Sep-12	Documented within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).											S				K
<i>Astragalus shevockii</i>	Shevock's milk-vetch	VASC	Fabaceae			BLMS	1B.3		G3	S3		No	28-Apr-15				K												
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G1T1	S1		No	13-Sep-12													S			
<i>Astragalus tiehmii</i>	Tiehm's milk-vetch	VASC	Fabaceae			BLMS		W	G3	S2		No	28-Apr-15	Entire distribution of this plant is on public lands administered by the Surprise FO. Nevada only.															K
<i>Astragalus tricarinatus</i>	triple-ribbed milk-vetch	VASC	Fabaceae	FE			1B.2		G1	S1		No	13-Sep-12																K
<i>Astragalus webberi</i>	Webber's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G1	S1		No								S									

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<i>Atriplex argentea</i> var. <i>longitrichoma</i>	Pahrump orache	VASC	Chenopodiaceae			BLMS	1B.1		G5T2	S2		No	03-Oct-11	The only two occurrences in CA are mapped by CNDDDB on BLM lands in CA near the NV border. The occurrences are based on a 1983 collection by Mary DeDecker and on a 1991 collection by Stutz. Added to BLM SS plant list on 10/3/2011. Not sure why this species had not previously been on our list.				K											
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heart-leaved saltbush	VASC	Chenopodiaceae			BLMS	1B.2		G3T2	S2		No	28-Apr-15	Occurrence number 82 in the CNDDDB is on BLM lands in the Carrizo Plain. Other occurrences in the San Joaquin Valley are proximate to BLM lands.			K												
<i>Atriplex cordulata</i> var. <i>erecticaulis</i>	Earlimart orache	VASC	Chenopodaceae			BLMS	1B.2		G3T1	S1		No	28-Apr-15	Formerly <i>A. erecticaluis</i> Stutz, Chu & Sanderson.			S												
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	VASC	Chenopodiaceae	FE			1B.1		G4T1	S1		No	26-Aug-09	This plant had been considered K for many years but review of CNDDDB on 8-26-09 shows no occurrences on BLM lands.											S				
<i>Atriplex coronata</i> var. <i>vallicola</i>	Lost Hills crownscale	VASC	Chenopodiaceae			BLMS	1B.2		G4T2	S2		No	15-Nov-10	Formerly <i>A. vallicola</i> Hoover.			K												
<i>Atriplex subtilis</i>	subtle orache	VASC	Chenopodaceae			BLMS	1B.2		G1	S1		No	28-Apr-15				S												
<i>Baccharis vanessae</i>	Encinitas coyotebrush	VASC	Asteraceae	FT	SE		1B.1		G1	S1		No	06-Aug-13	CNDDDB Occurrence 30 is on BLM lands--11 plants observed in 2000 on south side of Otay Mountains in wilderness.											K				
<i>Balsamorhiza lanata</i>	woolly balsamroot	VASC	Asteraceae			BLMS	1B.2		G3	S3		No	13-Sep-12	Elevated to <i>B. lanata</i> from <i>B. hookeri</i> Nutt. var. <i>lanata</i> Sharp.												K			

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<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Formerly <i>B. macrolepis</i> Sharp var. <i>macrolepis</i> . Jepson Manual 2nd edition submerges <i>B. m.</i> var. <i>platylepis</i> (Sharp) Ferris, which was the only variety, into <i>B. hookeri</i> Nutt. Documented in the Ukiah Field Office within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).																K		
<i>Balsamorhiza sericea</i>	silky balsamroot	VASC	Asteraceae			BLMS	1B.3		G4Q	S3		No	28-Apr-15																	S		
<i>Berberis harrisoniana</i>	Kofa Mountain barberry	VASC	Berberidaceae			BLMS	1B.2		G1G2	S1		No	28-Apr-15	In Whipple Wash																		
<i>Berberis nevinii</i>	Nevin's barberry	VASC	Berberidaceae	FE	SE		1B.1		G1	S1		No	13-Sep-12	Formerly <i>Mahonia nevinii</i> (Gray) Fedde																	K	
<i>Bloomeria clevelandii</i>	San Diego goldenstar	VASC	Themidaceae			BLMS	1B.1		G2	S2		No	06-Aug-13	Formerly <i>Muilla clevelandii</i> (S. Watson) Hoover. See discussion at: http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=121293 . CNDDDB specific Occurrence 19 is on both BLM and private lands. Occurrence 41 appears to be partially on BLM lands as well. Status changed from "S" to "K" on 8/6/2013.																		K
<i>Boechera bodiensis</i>	Bodie Hills rock cress	VASC	Brassicaceae			BLMS	1B.3		G2	S2		No	15-Nov-10	Formerly <i>Arabis bodiensis</i> Roll.					K													
<i>Boechera lincolnensis</i>	Lincoln rock cress	VASC	Brassicaceae			BLMS	2B.3		G4?	S2		No	28-Apr-15	Formerly <i>Arabis pulchra</i> S. Watson var. <i>munciensis</i> M.E. Jones. On Darwin Mesa. Formerly known as Darwin rock cress.																	K	
<i>Boechera serpenticola</i>	Serpentine Rockcress	VASC	Brassicaceae			BLMS	1B.2		G1	S1		No	13-Sep-12	CNDDDB maps nonspecific areas immediately adjacent to BLM lands near summit of Bully Choop Mountain. North-facing slopes on serpentine talus.																	S	

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<i>Boletus haematinus</i>	red-pored bolete	FUNG	Boletaceae			BLMS			G2G3	S2?		Yes	28-Apr-15		S														
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	VASC	Themidaceae	FT	SE		1B.1		G1	S1		No	06-Aug-13	CNDDDB specific Occurrence 25 is partly on BLM lands. Status changed from "S" to "K" on 8/6/2013.										K					
<i>Brodiaea insignis</i>	Kaweah brodiaea	VASC	Themidaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12			S													
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	VASC	Themidaceae			BLMS	1B.1		G2	S2		No	28-Apr-15												K				
<i>Brodiaea rosea</i>	Indian Valley brodiaea	VASC	Themidaceae		SE	BLMS	1B.1		G2	S2		No	28-Apr-15	Formerly <i>Brodiaea coronaria</i> (Salisb.) Engler subsp. <i>rosea</i> (Greene) Niehaus. Jepson Manual 2nd edition elevates to species.											S			K	
<i>Bryoria pseudocapillaris</i>	horsehair lichen	LICH	Parmeliaceae			BLMS	3.2		G3	S2		No	28-Apr-15		K														
<i>Bryoria spiralifera</i>	twisted horsehair lichen	LICH	Parmeliaceae			BLMS	1B.1		G3	S1S2		No	26-Jan-15	Added to CDFW/CNPS list on 2/1/2010. Previously already on list as BLMS.	K														
<i>Bryoria tortuosa</i>	yellow-twist horsehair	LICH	Parmeliaceae			BLMS			G5	S2		No	28-Apr-15	S5 in OR; S3 in WA.	K											K			
<i>Buxbaumia viridis</i>	green bug moss	BRYO	Buxbaumiaceae			BLMS	2.2		G4G5	S2		No	03-Jun-13		K											S			
<i>California macrophylla</i>	round-leaved filaree	VASC	Geraniaceae			BLMS	1B.1		G2	S2		No	28-May-15	Nine CNDDDB occurrences on the Payne Ranch, Colusa and Lake counties, Ukiah Field Office. CNDDDB Occurrence 67 is on BLM lands in Riverside County, within the Palm Springs Field Office. Documented occurrences on BLM lands in the Carrizo Plain and on BLM lands in Hollister.		K								K				K	
<i>Calochortus clavatus var. avius</i>	Pleasant Valley mariposa lily	VASC	Liliaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12										S						
<i>Calochortus clavatus var. gracilis</i>	slender mariposa lily	VASC	Liliaceae			BLMS	1B.2		G4T2T3	S2S3		No	28-Apr-15	The large polygon for nonspecific CNDDDB Occurrence 18 in Los Angeles County overlaps some BLM lands and other occurrences are close to BLM lands in Los Angeles County.										S					

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<i>Calochortus dunnii</i>	Dunn's mariposa	VASC	Liliaceae		SR	BLMS	1B.2		G2?	S2?		No	28-Apr-15												K				
<i>Calochortus excavatus</i>	Inyo mariposa	VASC	Liliaceae			BLMS	1B.1		G2	S2		No	13-Sep-12					K											
<i>Calochortus fimbriatus</i>	late-flowered mariposa lily	VASC	Liliaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 41 on the Los Padres National Forest is within 800m of BLM lands in Ventura County. Added to the CNPS/CDFG lists as RPR 1B.3 on 10-26-2012.			S												
<i>Calochortus greenei</i>	Greene's mariposa	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	13-Sep-12															K	
<i>Calochortus longebarbatus</i> <i>var. longebarbatus</i>	long-haired star-tulip	VASC	Liliaceae			BLMS	1B.2		G4T3	S3		No			S												S		
<i>Calochortus monanthus</i>	Shasta River mariposa	VASC	Liliaceae			BLMS	1A		GH	SH		No															S		
<i>Calochortus obispoensis</i>	San Luis mariposa lily	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				S												
<i>Calochortus palmeri</i> <i>var. palmeri</i>	Palmer's mariposa lily	VASC	Liliaceae			BLMS	1B.2		G3T3?	s3?		No	28-Apr-15	CNDDDB occurrence number 66 is located on Ridgecrest Field Office parcels. CNDDDB occurrence 18 and 20 are located on scattered Bakersfield Field Office parcels.			K											K	
<i>Calochortus persistens</i>	Siskiyou mariposa lily	VASC	Liliaceae	FC	SR	BLMS	1B.2		G1	S1		No	28-Apr-15														S		
<i>Calochortus raichei</i>	The Cedars fairy-lantern	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	23-Oct-12	CNDDDB occurrences 4 and 8 are definitely on BLM land at The Cedars; occurrence 7 is mapped as occurring partly on BLM land but RareFind account says it occurs on private land.															K
<i>Calochortus simulans</i>	San Luis Obispo mariposa lily	VASC	Liliaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S												
<i>Calochortus striatus</i>	alkali mariposa lily	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	28-Apr-15				K	S									K		
<i>Calochortus westonii</i>	Shirley Meadows star-tulip	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				K												
<i>Calycadenia hooveri</i>	Hoover's calycadenia	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15				S												
<i>Calycadenia micrantha</i>	small-flowered calycadenia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15																S

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<i>Calycadenia villosa</i>	dwarf calycadenia	VASC	Asteraceae			BLMS	1B.1		G3	S3		No	28-Apr-15				S															
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	VASC	Montiaceae			BLMS	1B.1		G3G4T2	S2		No	27-Jun-13	The Jepson Manual 2nd edition retains the genus <i>Calyptridium</i> as well as the combination <i>C. parryi</i> var. <i>hesseae</i> . Flora North America moves <i>Calyptridium</i> to <i>Cistanthe</i> and reduces this var. to a synonym of <i>Cistanthe parryi</i> . There are two collections by C. Matt Guilliams and Michael G. Simpson (SDSU17444/17445) on BLM near Big and Little Spanish Lakes in Clear Creek Rec. Area. There is another collection by Griffin (JEPS77709) on BLM in N. Clear Creek Canyon. None of these yet mapped in CNDDDB (as of 6/27/2013).																		
<i>Calyptridium pulchellum</i>	Mariposa pussypaws	VASC	Montiaceae	FT			1B.1		G1	S1		No	15-Nov-10	This is the treatment in the Jepson Manual 2nd edition. Flora North America puts this species into the genus <i>Cistanthe</i> .			S															
<i>Calystegia collina</i> subsp. <i>tridactylosa</i>	three-fingered morning-glory	VASC	Convolvulaceae			BLMS	1B.2		G4T1	S1		No	22-Nov-10	Known to occur on BLM Toney Creek holding, Eden Valley. Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).		K													K			
<i>Calystegia purpurata</i> subsp. <i>saxicola</i>	coastal bluff morning-glory	VASC	Convolvulaceae			BLMS	1B.2		G4T2T3	S2S3		No	26-Feb-15	Known from the Stornetta Unit, per the following collections: CAS263828, 1937, and RSA7999419, 2013.															K			

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<i>Calystegia stebbinsii</i>	Stebbins' morning glory	VASC	Convolvulaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12										K							
<i>Calystegia vanzuukiae</i>	Van Zuuk's morning-glory	VASC	Convolvulaceae			BLMS	1B.3		G2Q	S2		No	20-Jan-15	First described by Brummitt, R.K. and S.M. Namoff. 2013. <i>Calystegia vanzuukiae</i> (Convolvulaceae), a remarkable new species from Central California. <i>Aliso</i> 31(1): 15-18. Added as 1B.3 on July 16, 2014. On serpentine and gabbro soils in the Sierra Nevada foothills of Placer and El Dorado counties. On BLM lands according to Graciela Hinshaw (email dated June 11, 2014).									K							
<i>Camissonia benitensis</i>	San Benito evening-primrose	VASC	Onagraceae	FT			1B.1		G2	S2		Yes	13-Sep-12									K								
<i>Camissonia integrifolia</i>	Kern River evening-primrose	VASC	Onagraceae			BLMS	1B.3		G2	S2		No	13-Sep-12			S														
<i>Camissoniopsis hardhamiae</i>	Hardham's evening-primrose	VASC	Onagraceae			BLMS	1B.2		G1Q	S1		No	17-Mar-15	Formerly <i>Camissonia hardhamiae</i> P.H. Raven. Slightly less than half of CNDDDB specific occurrence 8 is mapped on BLM lands. Occurrence record reports lands as private, but this likely the result of not knowing where boundary with BLM was. Record from 4/10/1987.			K				S									
<i>Campanula californica</i>	swamp harebell	VASC	Campanulaceae			BLMS	1B.2		G3	S3		No	26-Feb-15	Known from the Stornetta Unit, per the following collection: SBBG124996, 1967.																K
<i>Campanula exigua</i>	chaparral harebell	VASC	Campanulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	CNDDDB maps a nonspecific occurrence based on two Griffin collections along Clear Creek Rd; also a collection in the area by C. & P. McMillan (JEPS3010) has not yet been mapped by CNDDDB (as of 6-27-2013).								K								
<i>Campanula sharsmithiae</i>	Sharsmith's harebell	VASC	Campanulaceae			BLMS	1B.2		G1	S1		No										S								
<i>Campanula shetleri</i>	Castle Crags harebell	VASC	Campanulaceae			BLMS	1B.3		G2	S2		No	28-Apr-15													S				

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<i>Carex klamathensis</i>	Klamath sedge	VASC	Cyperaceae			BLMS	1B.2		G2	S2		No	15-Nov-10	CNDDDB maps (Occurrence 3) within 1/2 mile of BLM lands in Tehama Co. BLM lands appear to have same serpentine substrate as Occurrence 3 in CNDDDB.											S				
<i>Carex obispoensis</i>	San Luis Obispo sedge	VASC	Cyperaceae			BLMS	1B.2		G2G3	S2S3		No	28-Apr-15				K												
<i>Carex saliniformis</i>	deceiving sedge	VASC	Cyperaceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Known from Alder Creek near Stornetta Unit, according to Jim Weigand (2/3/2015).														S	
<i>Carlquistia muirii</i>	Muir's raillardella	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	28-Apr-15	Formerly <i>Raillardiopsis muirii</i> (Gray) Rydb.			K										K		
<i>Carpenteria californica</i>	tree-anemone	VASC	Hydrangeaceae		ST	BLMS	1B.2		G1?	S1?		No	28-Apr-15				S												
<i>Castilleja ambigua subsp. humboldtensis</i>	Humboldt Bay owl's-clover	VASC	Orobanchaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15			K													
<i>Castilleja ambigua subsp. Insalutata</i>	pink Johnny-nip	VASC	Orobanchaceae			BLMS	1B.1		G4T1	S1		No	26-Jan-15	Added to CDFW/CNPS list as 1B.1 on 3/1/2010. Occurrence Number 13 (nonspecific 4/5 mile) is on Fort Ord in vicinity of Henneken Flats, "Mima Mound Area." The mapped circle spans BLM and Army lands (the latter of which may be transferred to BLM in the future).								S							
<i>Castilleja campestris subsp. succulenta</i>	succulent owl's clover	VASC	Orobanchaceae	FT	SE		1B.2		G4?T2	S2		No	28-Apr-15	Formerly designated as "K" in the Hollister FO (see Occurrence #35 in the CNDDDB), but this is a holdover from the time the Hollister FO managed some of the public lands now in the Bakersfield FO.			K												
<i>Castilleja densiflora subsp. obispoensis</i>	Obispo Indian paintbrush	VASC	Orobanchaceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15				S												
<i>Castilleja gleasoni</i>	Mt. Gleason Indian paintbrush	VASC	Orobanchaceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Name change from <i>Castilleja gleasonii</i> to <i>Castilleja gleasoni</i> as of March 3, 2011.										S					

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<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	VASC	Orobanchaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Now known from the Stornetta Unit, as well as CCNM rocks at Mendocino. Stornetta collection: SBBG21322, 1964. Info from Jim Weigand, 2/3/2015.		S													K
<i>Castilleja rubicundula</i> <i>subsp. rubicundula</i>	pink creamsacs	VASC	Orobanchaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12	On BLM lands in Bear Creek Watershed acc to 12/10/08 email from Jim Weigand. Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).												S			K
<i>Caulanthus californicus</i>	California jewelflower	VASC	Brassicaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12				K												
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	VASC	Brassicaceae			BLMS	1B.2		G3	S3		No	28-Apr-15	Formerly <i>C. coulteri</i> Wats. var. <i>lemmonii</i> (Wats.) Munz.			K												
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	VASC	Rhamnaceae			BLMS	1B.1		G1	S1		No	28-Apr-15																S
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																K
<i>Ceanothus divergens</i>	Calistoga ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																S
<i>Ceanothus ferrisiae</i>	coyote ceanothus	VASC	Rhamnaceae	FE			1B.1		G2	S2		Yes	13-Sep-12									S							
<i>Ceanothus hearstiorum</i>	Hearst's ceanothus	VASC	Rhamnaceae		SR	BLMS	1B.2		G1	S1		No										S							

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<i>Ceanothus otayensis</i>	Otay Mountain ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G1	S1		No	30-Jul-13	CNDDDB Occurrence 4 is clearly on BLM lands on the south slope of Otay Mountain, based on a 2001 field survey form from Julie Evens. Nonspecific Occurrence 1, on the northeast face of Otay Mountain, has its entire mapped 1-mile radius circle on BLM lands, as does the nonspecific 2/5 mile radius circle of Occurrence 2.																K		
<i>Ceanothus roderickii</i>	Pine Hill ceanothus	VASC	Rhamnaceae	FE	SR		1B.2		G1	S1		Yes	13-Sep-12										K									
<i>Centromadia parryi subsp. congdonii</i>	Congdon's tarplant	VASC	Asteraceae			BLMS	1B.1		G3T2	S2		No	28-Apr-15	Formerly <i>Hemizonia parryi</i> Greene subsp. <i>congdonii</i> (Rob. & Greenm.) Keck; Fort Ord. Rare Plant Rank changed from 1B.2 to 1B.1 by CNPS/CDFW on 11-5-2012.																		
<i>Centromadia parryi subsp. parryi</i>	pappose tarplant	VASC	Asteraceae			BLMS	1B.2		G3T1	S1		No	28-Apr-15	Formerly <i>Hemizonia parryi</i> Greene. Known in Bear Creek watershed acc. 12/10/2008 email from Jim Weigand.																	K	
<i>Chaenactis glabriuscula var. orcuttiana</i>	Orcutt's pincushion	VASC	Asteraceae			BLMS	1B.1		G5T1	S1		No	18-Sep-12	CNDDDB historic, nonspecific occurrence 12 on land slated for wind energy. There are BLM lands inside the 1 mile radius circle, but most of the lands inside the circle are private.																		
<i>Chaenactis suffrutescens</i>	Shasta chaenactis	VASC	Asteraceae			BLMS	1B.3		G3	S3		No																			K	
<i>Chamaesyce hooveri</i>	Hoover's spurge	VASC	Euphorbiaceae	FT			1B.2		G2	S2		Yes	13-Sep-12	Formerly <i>Chamaesyce hooveri</i> (Wheeler) Koutnik.																		S
<i>Chlorogalum grandiflorum</i>	Red Hills soaproot	VASC	Agavaceae			BLMS	1B.2		G3	S3		No	13-Sep-12																			
<i>Chlorogalum pomeridianum var. minus</i>	dwarf soaproot	VASC	Agavaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12																			K
<i>Chlorogalum purpureum var. purpureum</i>	purple amole	VASC	Agavaceae	FT			1B.1		G2T2	S2		No	13-Sep-12	Critical Habitat, known habitat in Bakersfield Field Office (Mineral Estate).			S															

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<i>Chloropyron maritimum subsp. palustre</i>	Pt. Reyes birds-beak	VASC	Orobanchaceae			BLMS	1B.2		G4?T2	S2		No	28-Apr-15	Name change from <i>Cordylanthus maritimum</i> subsp. <i>palustris</i> to <i>Chloropyron maritimum</i> subsp. <i>palustre</i> as of March 3, 2011.		K													
<i>Chloropyron molle subsp. hispidum</i>	hispid bird's-beak	VASC	Orobanchaceae			BLMS	1B.1		G2T2	S2		No	28-Apr-15	Name change from <i>Cordylanthus mollis</i> subsp. <i>hispidus</i> to <i>Chloropyron molle</i> subsp. <i>hispidum</i> as of March 3, 2011.			S				S								
<i>Chloropyron tecopense</i>	Tecopa bird's-beak	VASC	Orobanchaceae			BLMS	1B.2		G2	S1		No	03-Oct-11	Name change from <i>Cordylanthus tecopensis</i> to <i>Chloropyron tecopense</i> as of March 3, 2011.				K											
<i>Choiromyces venosus</i>	hypogeous truffle	FUNG	Tuberaceae			BLMS			G4G5	S1		No	28-Apr-15	Also S1 in OR.		K													
<i>Chorizanthe biloba var. immemora</i>	Hernandez spineflower	VASC	Polygonaceae			BLMS	1B.2		G3T1?	S1?		No	13-Sep-12	Near mouth of Clear Creek.								K							
<i>Chorizanthe breweri</i>	Brewer's spineflower	VASC	Polygonaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S												
<i>Chorizanthe parryi var. parryi</i>	Parry's spineflower	VASC	Polygonaceae			BLMS	1B.1		G3T3	S3		No	28-Apr-15	Occurrences 74 and 79 in CNDDDB definitely on BLM lands; Occurrence 43 may be on BLM lands.											K				
<i>Chorizanthe polygonoides var. longispina</i>	long-spined spineflower	VASC	Polygonaceae			BLMS	1B.2		G5T3	S3		No	18-Sep-12	Specific CNDDDB occurrences on BLM lands in Palm Springs, nonspecific CNDDDB occurrence number 133 in El Centro includes BLM lands slated for renewable energy within the 1 mile radius mapped circle.							S				K				
<i>Chorizanthe pungens var. pungens</i>	Monterey spineflower	VASC	Polygonaceae	FT			1B.2		G2T2	S2		Yes	13-Sep-12									K							
<i>Chorizanthe rectispina</i>	straight-awned spineflower	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No				K						K							
<i>Chorizanthe robusta var. robusta</i>	robust spineflower	VASC	Polygonaceae	FE			1B.1		G2T1	S1		Yes	15-Nov-10									S							

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<i>Chorizanthe xanti var. leucotheca</i>	white-bracted spineflower	VASC	Polygonaceae			BLMS	1B.2		G4T3	S3		No	28-Apr-15	CNDDDB nonspecific Occurrence 33 near Old Woman Springs has BLM lands within the mapped 1-mile radius circle in the Barstow Field Office. Several specific and nonspecific occurrences are on BLM lands in the Palm Springs Field Office in and near Whitewater Canyon.			S							K					
<i>Cirsium ciliolatum</i>	Ashland thistle	VASC	Asteraceae		SE	BLMS	2B.1		G3	S1		No	28-Apr-15												S				
<i>Cirsium crassicaule</i>	slough thistle	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15			S													
<i>Cirsium fontinale var. campylon</i>	Mt. Hamilton thistle	VASC	Asteraceae			BLMS	1B.2		G2T2	S2		No	13-Sep-12								S								
<i>Cirsium fontinale var. obispoense</i>	Chorro Creek bog thistle	VASC	Asteraceae	FE	SE		1B.2		G2T2	S2		Yes	13-Sep-12			S													
<i>Cirsium occidentale var. lucianum</i>	Cuesta Ridge thistle	VASC	Asteraceae			BLMS	1B.2		G3G4T2	S2		No	13-Sep-12	CNDDDB maps about a mile from BLM lands near Santa Margarita Lake.			S												
<i>Cirsium rhotophilum</i>	surf thistle	VASC	Asteraceae		ST	BLMS	1B.2		G1	S1		No	13-Sep-12	On BLM lands at the Point Sal ACEC.			K												
<i>Cirsium scariosum var. loncholepis</i>	La Graciosa thistle	VASC	Asteraceae	FE	ST		1B.1		G5T1	S1		No	13-Sep-12	Critical Habitat, potential habitat in the Bakersfield Field Office (Mineral Estate). Name change from <i>Cirsium loncholepis</i> to <i>Cirsium scariosum var. loncholepis</i> as of March 3, 2011.			S												
<i>Clarkia australis</i>	small southern clarkia	VASC	Onagraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			S													
<i>Clarkia biloba subsp. australis</i>	Mariposa clarkia	VASC	Onagraceae			BLMS	1B.2		G4G5T2 T3	S2S3		No	28-Apr-15									K							
<i>Clarkia biloba subsp. brandegeae</i>	Brandegee's clarkia	VASC	Onagraceae			BLMS	1B.2		G4G5T4	S2S3		No	28-Apr-15									K		K					
<i>Clarkia borealis subsp. arida</i>	Shasta clarkia	VASC	Onagraceae			BLMS	1B.1		G3T2	S2		No	18-Apr-13												K				
<i>Clarkia borealis subsp. borealis</i>	northern clarkia	VASC	Onagraceae			BLMS	1B.3		G3T3	S3		No	28-Apr-15												S				

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<i>Clarkia delicata</i>	delicate clarkia	VASC	Onagraceae			BLMS	1B.2		G3	S3		No	28-Apr-15	Collections by Mark Elvin 3365 (UC Irvine IRVC27200), April 24, 2004, and Jon P. Rebman et al. 8824 (UC Irvine IRVC27254), May 4, 2003, are both on BLM lands on Otay Mountain. Nonspecific CNDDDB Occurrence 12 has some BLM lands within the mapped 1-mile radius circle.												K				
<i>Clarkia gracilis subsp. albicaulis</i>	white-stemmed clarkia	VASC	Onagraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15													K				
<i>Clarkia mildrediae subsp. mildrediae</i>	Mildred's clarkia	VASC	Onagraceae			BLMS	1B.3		G3T3	S3		No	13-Sep-12													S				
<i>Clarkia mosquinii</i>	Mosquin's clarkia	VASC	Onagraceae			BLMS	1B.1		G2	S2		No	15-Nov-10	Formerly <i>Clarkia mosquinii</i> subsp. <i>mosquinii</i> and <i>C. m.</i> subsp. <i>xerophila</i> .												K				
<i>Clarkia rostrata</i>	beaked clarkia	VASC	Onagraceae			BLMS	1B.3		G3	S3		No	28-Apr-15										K							
<i>Clarkia springvillensis</i>	Springville clarkia	VASC	Onagraceae	FT	SE		1B.2		G2	S2		No	13-Sep-12			S														
<i>Clarkia tembloriensis subsp. calientensis</i>	Vasek's clarkia	VASC	Onagraceae			BLMS	1B.1		G3T1	S1		No	18-Apr-13			S														
<i>Clavariadelphus ligula</i>	strap coral	FUNG	Gomphaceae			BLMS			None	None		No	16-Nov-10		S															
<i>Clavulina castanopes var. lignicola</i>	'hairy-stemmed coral'	FUNG	Clavulinaceae			BLMS			None	None		No	16-Nov-10		S															
<i>Clinopodium chandleri</i>	San Miguel savory	VASC	Lamiaceae			BLMS	1B.2		G2	S2		No	30-Jul-13	CNDDDB occurrences 1, 2, and 3 are all on BLM lands north of Otay Mountain. Entire 1-mile radius circle of Occurrence 23 is on BLM lands on Otay Mountain.											K					
<i>Clitocybe subditopoda</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G3G4	S1S3		No	28-Apr-15		K															
<i>Collinsia antonina</i>	San Antonio collinsia	VASC	Plantaginaceae			BLMS	1B.2		G1	S1		No	18-Apr-13									S								

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<i>Comarostaphylis diversifolia</i> subsp. <i>diversifolia</i>	summer holly	VASC	Rhamnaceae			BLMS	1B.2		G3T2	S2		No	30-Jul-13	CNDDDB Occurrences 10, 83, and 88 are on BLM lands in the Otay Mountain area. Collection SD191122 by Jonathon K. Snapp-Cook and others, April 28, 2006, is on BLM lands on the west side of Otay Mountain.																K	
<i>Cordyceps ophioglossoides</i>	truffle eater	FUNG	Clavicipitaceae			BLMS			G3G4	S3S4		No	28-Apr-15			S															
<i>Cordylanthus nidularius</i>	Mt. Diablo bird's-beak	VASC	Orobanchaceae		SR	BLMS	1B.1		G1	S1		No	18-Apr-13									S									
<i>Cordylanthus rigidus</i> subsp. <i>littoralis</i>	seaside bird's-beak	VASC	Orobanchaceae		SE	BLMS	1B.1		G5T2	S2		No	13-Sep-12			K						K									
<i>Cordylanthus tenuis</i> subsp. <i>pallescens</i>	pallid bird's-beak	VASC	Orobanchaceae			BLMS	1B.2		G4G5T1	S1		No	13-Sep-12																	S	
<i>Croton wigginsii</i>	Wiggins' croton	VASC	Euphorbiaceae		SR	BLMS	2B.2		G2G3	S2		No	28-Apr-15																		
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	SE Red Mt.																S	
<i>Cryptantha crinita</i>	silky cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																	K	
<i>Cryptantha dissita</i>	serpentine cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Suspected to occur at Eden Valley, Arcata Field Office. Name change from <i>Cryptantha clevelandii</i> var. <i>dissita</i> to <i>Cryptantha dissita</i> as of March 3, 2011. Species found on Walker Ridge (Ukiah Field Office) as part of rare plant inventory for proposed wind energy development. Re-ranked from rare plant rank 1B.1 to 1B.2 on 10-25-2012.		S															K
<i>Cryptantha excavata</i>	deep-scarred cryptantha	VASC	Boraginaceae			BLMS	1B.3		G1	S1		No	28-Apr-15	Known from Walker Ridge/Bear Creek acc. Jim Weigand. Old, nonspecific CNDDDB occurrences mapped near BLM lands in Colusa County.																	K
<i>Cryptantha ganderi</i>	Gander's cryptantha	VASC	Boraginaceae			BLMS	1B.1		G1G2	S1		No	13-Sep-12																	S	

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<i>Cryptantha mariposae</i>	Mariposa cryptantha	VASC	Boraginaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	Two collections by Vern Yadon, one in Clear Creek at 3307 ft elevation and the other at Santa Rita Peak, just below east side. CNDDDB doesn't yet show these occurrences (as of 6/27/2013) but this is because they didn't know about them at last update (pers. comm. Nick Jensen, May 2009). This is a significant range extension. The Yadon collections were still not mapped in CDDDB as of 4/28/2015.								K	K							
<i>Cryptantha roosiorum</i>	bristlecone cryptantha	VASC	Boraginaceae		SR	BLMS	1B.2		G2	S2		No	18-Apr-13					S									K			
<i>Cryptantha schoolcraftii</i>	Schoolcraft's cryptantha	VASC	Boraginaceae			BLMS	2B.2	W	G3	S1 (CA); S3 (NV)		No	28-Apr-15	Common name "ash cryptantha" used in Jepson Manual 2nd edition. Nevada Heritage Program uses "Schoolcraft catseye."														K		
<i>Cusickiella quadricostata</i>	Bodie Hills cusickiella	VASC	Brassicaceae			BLMS	1B.2		G3	S2		No	28-Apr-15					K												
<i>Cylindropuntia fosbergii</i>	pink teddy-bear cholla	VASC	Cactaceae			BLMS	1B.3		G2	S2		No	18-Sep-12	Treated as a hybrid, <i>C. xfosbergii</i> in the Jepson Manual, Second Edition, but based on a recent paper by Mayer et al. (<i>Madrone</i> 58: 106-112), CDFG and CNPS have elevated to specific level and assigned a California Rare Plant Rank of 1.3 (on 5-7-2012). Several occurrences on BLM lands in the Monument Peak Quadrangle.							K									
<i>Cylindropuntia munzii</i>	Munz cholla	VASC	Cactaceae			BLMS	1B.3		G3	S1		No	18-Apr-13	Formerly <i>Opuntia munzii</i> C.B. Wolf.											K					
<i>Cymopterus deserticola</i>	desert cymopterus	VASC	Apiaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	East of Cuddeback Lake and north of Edwards AFB.				K									K			
<i>Cymopterus ripleyi</i> var. <i>saniculooides</i>	Ripley's cymopterus	VASC	Apiaceae			BLMS	1B.2		G3G4T3 Q	S1		No	18-Apr-13	NE Haiwee Reservoir.													K			
<i>Cypripedium fasciculatum</i>	clustered lady's slipper	VASC	Orchidaceae			BLMS	4.2		G4	S4		No	28-Apr-15													K				
<i>Cypripedium montanum</i>	mountain lady's slipper	VASC	Orchidaceae			BLMS	4.2		G4	S4		No	28-Apr-15													K				

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<i>Dalea ornata</i>	ornate dalea	VASC	Fabaceae			BLMS	2B.1		G4G5	S2		No	28-Apr-15	Only six closely associated occurrences are known of this plant in CA, and they are disjunct from the others in western NV. Known from the Snake and Columbia valleys in E. WA, OR, and SW ID. Occurrences in CA are grazed and subject to invasion from medusahead and cheatgrass.					K										
<i>Dedeckera eurekaensis</i>	July gold	VASC	Polygonaceae		SR	BLMS	1B.3		G3	S3		No	28-Apr-15					K									K		
<i>Deinandra arida</i>	Red Rock tarplant	VASC	Asteraceae			BLMS	1B.2		G1	S1		No	18-Apr-13	Formerly <i>Hemizonia arida</i> Keck. Known to occur in Red Rock State Park.													S		
<i>Deinandra conjugens</i>	Otay tarplant	VASC	Asteraceae	FT	SE		1B.1		G1	S1		Yes	13-Sep-12	Formerly <i>Hemizonia conjugens</i> Keck. Review of CNDDDB does not show any occurrences on BLM land, though some are close.											S				
<i>Deinandra floribunda</i>	Tecate tarplant	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Hemizonia floribunda</i> A. Gray.													K		
<i>Deinandra halliana</i>	Hall's tarplant	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	13-Sep-12	Formerly <i>Hemizonia halliana</i> Keck.			S					K							
<i>Deinandra increscens subsp. villosa</i>	Gaviota tarplant	VASC	Asteraceae	FE	SE		1B.1		G4G5T2	S2		No	13-Sep-12	Formerly <i>Hemizonia increscens</i> Keck subsp. <i>villosa</i> Tanowitz. Proposed Critical Habitat, mineral estate.			S												
<i>Deinandra minthornii</i>	Santa Suzana tarplant	VASC	Asteraceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Hemizonia minthornii</i> Jeps.											S				

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<i>Delphinium purpusii</i>	Kern County Larkspur	VASC	Ranunculaceae			BLMS	1B.3		G2	S2		No	13-Sep-12	Known only from rocky areas in Kern and Tulare counties with 15-20 occurrences known. Very localized with several occurrences on road cuts.			K												
<i>Delphinium recurvatum</i>	recurved larkspur	VASC	Ranunculaceae			BLMS	1B.2		G3	S3		No	13-Sep-12				K					K							
<i>Delphinium umbracolorum</i>	umbrella larkspur	VASC	Ranunculaceae			BLMS	1B.3		G3	S3		No	28-Apr-15				S												
<i>Dendriscoaulon intricatum</i>	northern moon shrub	LICH	Lobariaceae			BLMS			G3G4Q	S1		No	28-Apr-15			S											K		
<i>Dendrocollybia racemosa</i>	no common name	FUNG	Tricholomataceae			BLMS			G4	None		No	16-Nov-10	Formerly <i>Collybia racemosa</i> (Pers.) Quélet.			K										S		
<i>Dermocybe humboldtensis</i>	'little green mushroom'	FUNG	Cortinariaceae			BLMS			G1G2	S1?		No	28-Apr-15			K													
<i>Dieteria asteroides var. lagunensis</i>	Mount Laguna aster	VASC	Asteraceae		SR	BLMS	2B.1		G5T2T3 Q	S1		No	28-Apr-15	Formerly <i>Machaeranthera asteroides</i> (Torr.) Greene var. <i>lagunensis</i> (Keck) Turner.								K							
<i>Dithyrea maritima</i>	beach spectaclepod	VASC	Brassicaceae		ST	BLMS	1B.1		G2	S1		No	28-Apr-15	Removed from the "S" list for the Palm Springs Field Office on 8/6/2013 because no known occurrences are near BLM lands. Still considered "S" for the Bakersfield Field Office based on CNDDDB nonspecific Occurrence 29, the mapped 3/5 mile radius circle of which includes BLM lands at Point Sal.			S												
<i>Dodecahema leptoceras</i>	slender-horned spineflower	VASC	Polygonaceae	FE	SE		1B.1		G1	S1		No		Formerly <i>Centrostegia leptoceras</i> Gray.														K	
<i>Dudleya abramsii subsp. murina</i>	mouse-gray dudleya	VASC	Crassulaceae			BLMS	1B.3		G3T2	S2		No	28-Apr-15				S												
<i>Dudleya multicaulis</i>	many-stemmed dudleya	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	06-Aug-13	Status changed from "K" to "S" on 8/6/2013. Although nonspecific CNDDDB Occurrence 9 has BLM lands within it (as well as private lands), the observers cite the lands as private.											S				

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH	
<i>Dudleya saxosa subsp. saxosa</i>	Panamint dudleya	VASC	Crassulaceae			BLMS	1B.3		G4T3	S3		No	13-Sep-12	Panamint Mts: on BLM lands in Surprise Canyon--see 2005 Surprise Canyon ADEIS.													K			
<i>Dudleya variegata</i>	variegated dudleya	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15												K					
<i>Echinocereus engelmannii var. howei</i>	Howe's hedgehog cactus	VASC	Cactaceae			BLMS	1B.1		G5T1	S1		No	18-Apr-13	<i>E. e. var. howei</i> not recognized in Jepson Manual 1st or 2nd edition or in Flora North America. It is recognized in the USDA Plants database. Original description is in the Cactus and Succulent Journal 46:80 (1974).										K						
<i>Enceliopsis covillei</i>	Panamint daisy	VASC	Asteraceae			BLMS	1B.2		G2?	S2?		No	28-Apr-15	Panamint Mts.													K			
<i>Entoloma nitidum</i>	'indigo entoloma'	FUNG	Entolomataceae			BLMS			G5	S1S3		No	28-Apr-15			K														
<i>Epilobium oreganum</i>	Oregon fireweed	VASC	Onagraceae			BLMS	1B.2		G2	S2		No	28-Apr-15															S		
<i>Epilobium siskiyouense</i>	Siskiyou fireweed	VASC	Onagraceae			BLMS	1B.3		G3	S3		No	28-Apr-15															S		
<i>Eremalche kernensis</i>	Kern mallow	VASC	Malvaceae	FE			1B.1		G3?T2Q	S2		Yes	18-Apr-13				K													
<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	VASC	Polemoniaceae			BLMS	1B.1		G1Q	S1		No	18-Apr-13	Reranked from California Rare Plant Rank 1B.2 to 1B.1 on 8-23-2012.													K		K	
<i>Eriastrum densifolium subsp. sanctorum</i>	Santa Ana River woollystar	VASC	Polemoniaceae	FE	SE		1B.1		G4T1	S1		No	13-Sep-12															K		
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	CNDDDB maps at least 3 occurrences on BLM lands in the Needles Field Office. Several new occurrences added in 2009 and 2010 as a result of solar power plant surveys and CNPS Rare Plant Treasure Hunt.										K	K					
<i>Eriastrum luteum</i>	yellow-flowered eriastrum	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				K													
<i>Ericameria fasciculata</i>	Eastwood's goldenbush	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15																	
<i>Ericameria gilmanii</i>	Gilman's goldenbush	VASC	Asteraceae			BLMS	1B.3		G1	S1		No	13-Sep-12	Owens Peak.														S		
<i>Ericameria palmeri var. palmeri</i>	Palmer's goldernbush	VASC	Asteraceae			BLMS	1B.1		G4T2T3	S1		No	15-Nov-10	Moved from CNPS list 2.2 to 1B.1 on 8/12/09. CNDDDB Occurrence 2, anon-specific 1-mile radius circle, includes BLM lands within it.														S		

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<i>Erigeron aequifolius</i>	Hall's daisy	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15	S. Sierra.													K		
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15				K												
<i>Erigeron calvus</i>	bald daisy	VASC	Asteraceae			BLMS	1B.1		G1Q	S1		No	18-Apr-13	This occurrence is based on a single collection by Olmstead in 1891. It is mapped as a best guess "just north of Swansea," and has a 1-mile radius circle to indicate a nonspecific occurrence. Most of the lands within that circle are BLM lands, so we should at least have the species on our list as suspected to occur. Although the Rarefind report states that there are taxonomic questions (and the Global Naturereserve rank of G1Q also indicates this), the species is included in both Jepson Manual 2 and the Flora of North America.				S											
<i>Erigeron multiceps</i>	Kern River daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15				S												
<i>Erigeron parishii</i>	Parish's daisy	VASC	Asteraceae	FT			1B.1		G2	S2		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented. Until 8/6/2013 this was considered "K" in the Palm Springs Field Office, but a review of CNDDDB records shows that although there are many occurrences within the boundaries of the Palm Springs Field Office, none of these are near BLM lands.															
<i>Erigeron serpentinus</i>	serpentine daisy	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	23-Oct-12	CNDDDB Occurrence 3 is on BLM land at The Cedars.														K	
<i>Erigeron supplex</i>	supple daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Old records from the Garcia River just east of the Stornetta Unit, according to Jim Weigand (2/3/2015).														S	

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<i>Erigeron uncialis</i> var. <i>uncialis</i>	limestone daisy	VASC	Asteraceae			BLMS	1B.2		G3G4T2	S2		No	31-Mar-15	On private land within the new boundary of the Cerro Gordo/Conglomerate Mesa ACEC													S		
<i>Eriodictyon altissimum</i>	Indian Knob mountainbalm	VASC	Boraginaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12			S													
<i>Eriogonum alexanderae</i>	Alexander's buckwheat	VASC	Polygonaceae			BLMS	1B.1		G2G3	S1		No	07-Jul-12	Name changed from <i>Eriogonum ochrocephalum</i> var. <i>alexanderae</i> to <i>Eriogonum alexanderae</i> and rare plant rank changed from Rank 2.2 to 1B.1 on 11/29/2011. Located in Mono County on Bodie Mountain. Likely on BLM lands there.				S											
<i>Eriogonum apricum</i> var. <i>apricum</i>	lone buckwheat	VASC	Polygonaceae	FE	SE		1B.1		G1T1	S1		No	13-Sep-12										K						
<i>Eriogonum bifurcatum</i>	forked buckwheat	VASC	Polygonaceae			BLMS	1B.2		G3	S3		No	18-Apr-13				K												
<i>Eriogonum cedrorum</i>	The Cedars buckwheat	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No	23-Oct-12	Specific CNDDDB Occurrence 1 is mapped on BLM land at The Cedars.														K	
<i>Eriogonum contiguum</i>	Reveal's buckwheat	VASC	Polygonaceae			BLMS	2B.3		G2	S2		No	28-Apr-15	CNDDDB Occurrences 14, 15, and 18 are on BLM lands.													K		
<i>Eriogonum crosbyae</i>	Crosby's buckwheat	VASC	Polygonaceae			BLMS		W	G3	S3		No		S3 in NV. This plant is threatened by gold mining activity on the Nevada portion of the Surprise Field Office. 82% of this plants' total numbers are within the mining claim area. A few populations also occur in Oregon.														K	
<i>Eriogonum eremicola</i>	Wildrose Canyon buckwheat	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No	13-Sep-12					S									K		
<i>Eriogonum hoffmannii</i> var. <i>hoffmannii</i>	Hoffmann's buckwheat	VASC	Polygonaceae			BLMS	1B.3		G3T2	S2		No	28-Apr-15	Panamint Mts.; Found in Surprise Canyon on BLM lands--see 2005 ADEIS.													K		
<i>Eriogonum kelloggii</i>	Red Mountain buckwheat	VASC	Polygonaceae		SE	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly a Federal candidate for listing. Removed from candidate list, Federal Register 29: 56029, September 18, 2014.		K													
<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Kern buckwheat	VASC	Polygonaceae			BLMS	1B.1		G4T1	S1		No	18-Apr-13				S										K		

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<i>Eriogonum mensicola</i>	Pinyon Mesa buckwheat	VASC	Polygonaceae			BLMS	1B.3		G2G3	S2		No	31-Mar-15	CNDDDB occurrences 6 and 8 on BLM, perhaps within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC (the occurrences straddle the boundary). Other occurrences on Death Valley NP, China Lake NWS.														K	
<i>Eriogonum microthecum</i> var. <i>panamintense</i>	Panamint Mountains buckwheat	VASC	Polygonaceae			BLMS	1B.3		G5T3	S3		No	28-Apr-15	CNDDDB occurrence number 7 is within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC. Other occurrences on BLM lands in the Ridgecrest and Bishop Field Offices.				K										K	
<i>Eriogonum microthecum</i> var. <i>schoolcraftii</i>	Schoolcraft's wild buckwheat	VASC	Polygonaceae			BLMS	1B.2	W	G5T3 in CA; G5T2 in NV	S3 (CA); S1 (NV)		No	28-Apr-15	Taxon described by: Reveal, J. L. 2004. New entities in <i>Eriogonum</i> (Polygonaceae: Eriogonoideae). <i>Phytologia</i> 86(3):121-159.					K									S	
<i>Eriogonum nervulosum</i>	Snow Mtn. buckwheat	VASC	Polygonaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																K
<i>Eriogonum nudum</i> var. <i>murinum</i>	mouse buckwheat	VASC	Polygonaceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15			K						K							
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenberry buckwheat	VASC	Polygonaceae	FE			1B.1		G5T1	S1		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.			K												
<i>Eriogonum prociduum</i>	prostrate buckwheat	VASC	Polygonaceae			BLMS	1B.2	W	G3	S3 (CA); S1 (NV)		No	28-Apr-15	Found in the Ash Valley RNA/ACEC.	K														K
<i>Eriogonum temblorense</i>	Temblor buckwheat	VASC	Polygonaceae			BLMS	1B.2		G2	S2.2		No		Known only from eastern Monterey Co., eastern San Luis Obispo Co., and western Kern Co. Within the Bakersfield Field Office it occurs on shaly/barren soils in the Temblor Range and Elkhorn Plain. This habitat type appears to be very scattered and limited.		K													
<i>Eriogonum thornei</i>	Thorne's buckwheat	VASC	Polygonaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12	Formerly <i>E. ericifolium</i> var. <i>thornei</i> , now elevated to species.										K					

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<i>Eriogonum umbellatum</i> var. <i>ahartii</i>	Ahart's buckwheat	VASC	Polygonaceae			BLMS	1B.2		G5T2	S2		No	03-Oct-11	Currently shown in 5 locations close to BLM lands. Rarefind shows that locations are near West Branch of Feather River, De Sabla, South of Paradise Lake, and near Magalia Reservoir on scattered parcels.											S					
<i>Eriogonum umbellatum</i> var. <i>glaberrimum</i>	green buckwheat	VASC	Polygonaceae			BLMS	1B.3		G5T2?	S2		No	18-Apr-13		S													S		
<i>Eriogonum ursinum</i> var. <i>erubescens</i>	blushing wild buckwheat	VASC	Polygonaceae			BLMS	1B.3		G3G4T2	S2		No	28-Apr-15	CNDDDB maps very close to BLM lands, especially Occurrence 1.											S					
<i>Eriophyllum mohavense</i>	Barstow woolly-sunflower	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12				K										K			
<i>Erysimum ammophilum</i>	coast wallflower	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K								
<i>Erysimum concinnum</i>	bluff wallflower	VASC	Brassicaceae			BLMS	1B.2		G3	S3		No	26-Feb-15	Added to list as 1B.2 on 12/3/2012. Originally proposed to be added as 4.2, but final decision 1B.2 based on comments from field botanists. Substantial population on the north end of the King Range acc. Jennifer Wheeler. Biosystematic study of this plant and closely related congeners is currently underway.		K														
<i>Erysimum menziesii</i>	Menzies' wallflower	VASC	Brassicaceae	FE	SE		1B.1		G1	S1		No	28-Apr-15	Formerly <i>Erysimum menziesii</i> (Hook.) Wettst. subsp. <i>eurekaense</i> R. Price, but that combination, along with the two other subspecies that were formerly recognized by CNPS and CDFW, was never validly published. All three subspecies, including subsp. <i>eurekaense</i> , are now submerged into <i>E. menziesii</i> in the Jepson Manual II and by CNPS/CDFW per decision on 12-11-2012. The common name for the invalid combination, <i>E. m.</i> subsp. <i>eurekaense</i> , Humboldt Bay wallflower, has also been dropped in favor of Menzies' wallflower.		K														

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<i>Erythranthe calcicola</i>	limestone monkeyflower	VASC	Phrymaceae			BLMS	1B.3		G2	S2		No	25-Jun-13	This species was newly described in 2012 by Naomi Fraga and added to RPR 1B.3 on on 6/24/2013. There are three occurrences on BLM lands in the Ridgecrest Field Office, according to Naomi.															K		
<i>Erythranthe rhodopetra</i>	Red Rock Canyon monkeyflower	VASC	Phrymaceae			BLMS	1B.1		G1	S1		No	30-Oct-13	This species was newly described in 2012 by Naomi Fraga. The discussion in the CNPS Rare Plant Forum (http://cnps.org/forums/showthread.php?t=1792) states that there are 2 (and possibly 3) occurrences on BLM lands in CA in the El Paso Mts of the Ridgecrest FO. More recent occurrences are all in Red Rock SP. Added to CDFW/CNPS list as 1B.1 on Jul 8, 2013. As of 10/30/2013 not yet mapped in CNDDDB.																K	
<i>Erythronium citrinum var. roderickii</i>	Scott Mtn. fawn lily	VASC	Liliaceae			BLMS	1B.3		G4T3	S3		No	15-Nov-10															S			
<i>Erythronium tuolumnense</i>	Tuolumne fawn-lily	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																		
<i>Eschscholzia minutiflora subsp. twisselmannii</i>	Red Rock poppy	VASC	Papaveraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15	El Paso Mts.															K		
<i>Eschscholzia rhombipetala</i>	diamond-petaled California poppy	VASC	Papaveraceae			BLMS	1B.1		G1	S1		No	18-Apr-13				S														
<i>Etriplex joaquinana</i>	San Joaquin spearscale	VASC	Chenopodiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Found by Craig Thomsen and Ellen Dean in Bear Creek Unit (Payne Ranch). Formerly Atriplex joaquinana A. Nelson.																K	

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<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	VASC	Euphorbiaceae			BLMS	1B.1		G1	S1		No	30-Jul-13	Newly described in 2012 (<i>Aliso</i> 30: 1-4). There are only four known occurrences. CNDDDB Occurrence 2 (Marble Mountains) and occurrences 3 and 4 (Bristol Mountains) are all on BLM lands in the Needles Field Office. Occurrence 4 is within the boundaries of a proposed wind farm. Occurrence 1, the type locality, is in the Orocopia Mountains (Palm Springs Field Office), where the nonspecific mapped 2/5 mile radius circle has both BLM and private lands within it. Added to the CNPS/CDFW lists on 1-17-2013.									K	S						
<i>Euphorbia ocellata subsp. rattanii</i>	Stony Creek spurge	VASC	Euphorbiaceae			BLMS	1B.2		G4T1T2	S1S2		No	13-Sep-12	Formerly <i>Chamaesyce ocellata</i> (Dur. & Hilg.) Millsp. subsp. <i>rattanii</i> (S. Watson) Koutnik.												K				
<i>Euphorbia platysperma</i>	flat-seeded spurge	VASC	Euphorbiaceae			BLMS	1B.2		G3	S1		No	28-Apr-15	Formerly <i>Chamaesyce platysperma</i> (Engelm.) Shinn. Until 8/6/2013 was considered "S" in Palm Springs, but a review of the CNDDDB reveals no occurrences close to BLM lands in that Field Office. Still considered "S" in El Centro and added as "S" (on 8/6/2013) to Barstow based on the mapped polygon for CNDDDB nonspecific Occurrence 3, which has BLM lands (as well as private lands) within it. Nonspecific Occurrence 4 in El Centro has BLM lands within the mapped 1-mile radius circle.			S			S										
<i>Fremontodendron decumbens</i>	Pine Hill flannelbush	VASC	Malvaceae	FE	SR		1B.2		G1	S1		Yes	13-Sep-12										K							
<i>Fremontodendron mexicanum</i>	Mexican flannelbush	VASC	Malvaceae	FE	SR		1B.1		G1	S1		No	13-Sep-12								K				K					
<i>Fritillaria falcata</i>	talus fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K								

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<i>Fritillaria gentneri</i>	Gentner's fritillaria	VASC	Liliaceae	FE			1B.1		G1	S1		Yes	13-Sep-12												K					
<i>Fritillaria ojaiensis</i>	Ojai fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12			S														
<i>Fritillaria pluriflora</i>	adobe-lily	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	22-Nov-10	Documented in the Ukiah Field Office within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also occurs elsewhere in the Ukiah Field Office.										S					K	
<i>Fritillaria striata</i>	striped adobe-lily	VASC	Liliaceae		ST	BLMS	1B.1		G2	S2		No	13-Sep-12			S														
<i>Fritillaria viridea</i>	San Benito fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12									K								
<i>Galium angustifolium subsp. onycense</i>	Onyx peak bedstraw	VASC	Rubiaceae			BLMS	1B.3		G5T3	S3		No	28-Apr-15			K														
<i>Galium californicum subsp. primum</i>	Alvin Meadow bedstraw	VASC	Rubiaceae			BLMS	1B.2		G5T1Q	S1		No	13-Sep-12											S						
<i>Galium californicum subsp. sierrae</i>	El Dorado bedstraw	VASC	Rubiaceae	FE	SR		1B.2		G5T1	S1		Yes	13-Sep-12										K							
<i>Galium glabrescens subsp. modocense</i>	Modoc bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4T3	S3		No	18-Apr-13		S													K		
<i>Galium grande</i>	San Gabriel bedstraw	VASC	Rubiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15												S					
<i>Galium hardhamiae</i>	Hardham's bedstraw	VASC	Rubiaceae			BLMS	1B.3		G3	S3		No	28-Apr-15			K														
<i>Galium hilendiae subsp. kingstonense</i>	Kingston bedstraw	VASC	Rubiaceae			BLMS	1B.3		G4T2	S2		No	18-Apr-13				K						K							
<i>Galium serpticum subsp. scotticum</i>	Scott Mtn. bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4G5T2	S2.2		No													K					
<i>Galium serpticum subsp. warnerense</i>	Warner Mtns. bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4G5T2	S2		No	18-Apr-13		S													S		
<i>Gentiana setigera</i>	Mendocino gentian	VASC	Gentianaceae			BLMS	1B.2		G2	S1		No				K														

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<i>Gilia capitata subsp. pacifica</i>	Pacific gilia	VASC	Polemoniaceae			BLMS	1B.2		G5T3T4	S2		No	17-Mar-15	To be suspected on the Stornetta Unit according to Jim Weigand (2/3/2015).															S	
<i>Gilia millefoliata</i>	dark-eyed gilia	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15			K														
<i>Gilia tenuiflora subsp. arenaria</i>	sand gilia	VASC	Polemoniaceae	FE	ST		1B.2		G3G4T2	S2		Yes										K								
<i>Glossopetalon pungens</i>	pungent glossopetalon	VASC	Crossosomataceae			BLMS	1B.2		G2G3	S1		No	18-Apr-13											K						
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	VASC	Plantaginaceae		SE	BLMS	1B.2		G2	S2		No		This is a vernal pool plant. Can be found in man-made reservoirs.	K		K			K		K				K				
<i>Grindelia fraxinipratensis</i>	Ash Meadows gum-plant	VASC	Asteraceae	FT			1B.2		G2	S1	CE	Yes	13-Sep-12					K												
<i>Grindelia hallii</i>	San Diego gumplant	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Although CNDDDB occurrence 13 is nonspecific, the record states that the species was found on BLM lands.								K								
<i>Gymnopilus punctifolius</i>	'blue-green gymnopilus'	FUNG	Cortinariaceae			BLMS			G3G4	S2?		No	16-Nov-10			K														
<i>Harmonia doris-nilesiae</i>	Niles's harmonia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15	Formerly <i>Madia doris-nilesiae</i> T.W. Nelson & J.P. Nelson.												S				
<i>Harmonia hallii</i>	Hall's harmonia	VASC	Asteraceae			BLMS	1B.2		G2	S2?		No	13-Sep-12	Formerly <i>Madia hallii</i> Keck. Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also elsewhere in the Ukiah Field Office.																K
<i>Harmonia stebbinsii</i>	Stebbins's harmonia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Madia stebbinsii</i> T.W. Nelson & J.P. Nelson.												K				
<i>Helianthella castanea</i>	Diablo rock-rose	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12									S								

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<i>Helianthus niveus subsp. tephrodes</i>	Algodones Dunes sunflower	VASC	Asteraceae		SE	BLMS	1B.2		G4T2T3	S2		No	28-Apr-15								K									
<i>Helianthus winteri</i>	Winter's sunflower	VASC	Asteraceae			BLMS	1B.2		G1G2	S1S2		No	20-Jan-15	First described by Stebbins, J.C., C.J. Winchell, and J.V.H. Constable. 2013. <i>Helianthus winteri</i> (Asteraceae), a new perennial species from the southern Sierra Nevada foothills, California. Aliso 31: 19-24. Added to CDFW/CNPS list on 10/15/2014. Occurrence Number 2 (80m accuracy) is within 200m of isolated BLM 40-acre parcel centered at approximately -119.253672 36.592978 Decimal Degrees (NAD 83, UTM Zone 11N)			K													
<i>Hesperivax sparsiflora subsp. brevifolia</i>	short-leaved evax	VASC	Asteraceae			BLMS	1B.2		G4T2T3	S2S3		No	17-Mar-15	On BLM at Mattole Beach (in great numbers acc. Jennifer Wheeler) and at Samoa.		K														K
<i>Hesperidanthus jaegeri</i>	Jaeger's hesperidanthus	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	31-Mar-15	Formerly <i>Caulostramina jaegeri</i> . CNDDDB Occurrence number 4 is definitely on BLM lands within the boundary of the new Cerro Gordo/Congolmerate Mesa ACEC. Occurrence number 2 is likely on BLM lands with the ACEC. Occurrence number 6, Keynot Peak near head of Keynot Canyon is on BLM lands but not clear whether in the Bishop or Ridgecrest Field Office (occurrence as mapped straddles the border between the two field offices).				S										K		
<i>Hesperidanthus jaegeri</i>	Jaeger's hesperidanthus	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Formerly <i>Caulostramina jaegeri</i> (Roll.) Roll.					S									K		

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<i>Hesperocyparis forbesii</i>	Tecate cypress	VASC	Cupressaceae			BLMS	1B.1		G2	S2		No	03-Jun-13	Formerly <i>Cupressus forbesii</i> . The taxon was then moved to <i>Callitropsis forbesii</i> by Little (2006) Syst. Bot. 31(3):461-480. The Jepson Manual second edition uses <i>Hesperocyparis forbesii</i> in accordance with Adams et al. 2009. A new genus, <i>Hesperocyparis</i> , for the cypresses of the western hemisphere (Cupressaceae). Phytologia 91: 160-185.																K	
<i>Hesperocyparis nevadensis</i>	Piute cypress	VASC	Cupressaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Cupressus nevadensis</i> . The taxon was then moved to <i>Callitropsis nevadensis</i> by Little (2006) Syst. Bot. 31(3):461-480. The Jepson Manual second edition uses <i>Hesperocyparis nevadensis</i> in accordance with Adams et al. 2009. A new genus, <i>Hesperocyparis</i> , for the cypresses of the western hemisphere (Cupressaceae). Phytologia 91: 160-185.			K														
<i>Hesperolinon adenophyllum</i>	glandular western flax	VASC	Linaceae			BLMS	1B.2		G3	S3		No	28-Apr-15																	K	
<i>Hesperolinon breweri</i>	Brewer's dwarf flax	VASC	Linaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																	S	
<i>Hesperolinon didymocarpum</i>	Lake County dwarf flax	VASC	Linaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12																	S	
<i>Hesperolinon drymarioides</i>	drymaria-like western flax	VASC	Linaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Volmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also occurs elsewhere in the Ukiah Field Office.																	K

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<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	VASC	Linaceae			BLMS	1B.2		G2Q	S2		No	28-Mar-13	CNDDDB Occurrence 53 is currently mapped by CNDDDB as <i>H. tehamense</i> but CNPS/ CDFW now consider that occurrence to be <i>H. sharsmithiae</i> (http://cnps.org/forums/showthread.php?t=1723&highlight=Hesperolinon+sharsmithiae). <i>H. sharsmithiae</i> was added to the CNPS and CDFW lists on 12-14-2012.															K	
<i>Hesperolinon tehamense</i>	Tehama County western flax	VASC	Linaceae			BLMS	1B.3		G2	S2		No	28-Mar-13	Added K for Ukiah on 3-28-2013 (was previously K for Redding only). CNDDDB occurrences 18, 20, and 40 are all on BLM lands in the Ukiah FO. CNDDDB Occurrence 53 is also currently mapped on BLM lands, but this occurrence is now considered by CNPS/CDFW to represent <i>H. sharsmithiae</i> (http://cnps.org/forums/showthread.php?t=1723&highlight=Hesperolinon+sharsmithiae).															K	K
<i>Heterodermia leucomelos</i>	ciliate strap-lichen	LICH	Physciaceae			BLMS			G4	None		No	16-Nov-10			K														
<i>Heterotheca shevockii</i>	Shevock's golden-aster	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	03-Jun-13				S													
<i>Heuchera brevistaminea</i>	Laguna Mountains alumroot	VASC	Saxifragaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 5 is located on BLM lands.															K	
<i>Horkelia bolanderi</i>	Bolander's horkelia	VASC	Rosaceae			BLMS	1B.2		G1	S1		No	03-Jun-13	Very non-specific occurrence, CNDDDB occurrence 9, encompasses BLM lands. Vollmar (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010) reported that suitable habitat is present on BLM lands.																S
<i>Horkelia hendersonii</i>	Henderson's horkelia	VASC	Rosaceae			BLMS	1B.1		G1G2	S1		No	28-Apr-15																S	
<i>Horkelia parryi</i>	Parry's horkelia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																	

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<i>Horkelia tenuiloba</i>	thin-lobed horkelia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Suspected to occur on BLM lands on and near Willis Ridge, acc. Jennifer Wheeler.		S														
<i>Hosackia crassifolia var. otayensis</i>	Otay Mountain lotus	VASC	Fabaceae			BLMS	1B.1		G5T1	S1		No	06-Aug-13	CNDDDB occurrences 1, 2, and 3 are all on BLM lands on Otay Mountain.											K					
<i>Hulsea californica</i>	San Diego sunflower	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	28-Apr-15	CNDDDB occurrences 2 and 24 are located on BLM lands in the El Centro Field Office portion of San Diego County. Occurrences 10, 14, 22, 23, 26 are non-specific CNDDDB occurrences that are located next to BLM lands in the El Centro Field Office part of San Diego County. Nonspecific Occurrence 29 in the Palm Springs Field Office portion of San Diego County has some BLM lands within the mapped 1-mile radius circle.							K							S		
<i>Hydropus marginellus</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G3	S1S2		No	16-Nov-10			K														
<i>Iris hartwegii subsp. columbiana</i>	Tuolumne iris	VASC	Iridaceae			BLMS	1B.2		G4T1	S2		No	28-Apr-15																	
<i>Iris munzii</i>	Munz's iris	VASC	Iridaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S													
<i>Ivesia aperta var. aperta</i>	Sierra Valley ivesia	VASC	Rosaceae			BLMS	1B.2	T	G2T2	S2 (CA); S1 (NV)		No	28-Apr-15							K										
<i>Ivesia jaegeri</i>	Jaeger's ivesia	VASC	Rosaceae			BLMS	1B.3		G2G3	S1		No	03-Jun-13																	
<i>Ivesia kingii var. kingii</i>	alkali ivesia	VASC	Rosaceae			BLMS	2B.2		G4T3Q	S2		No	19-Aug-09	Moved from CNPS 1B.2 to 2.2 on 11/23/08 because more common in NV.					K											
<i>Ivesia longibracteata</i>	Castle Crag ivesia	VASC	Rosaceae			BLMS	1B.3		G1	S1		No	03-Jun-13															S		
<i>Ivesia paniculata</i>	Ash Creek ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Found in the Ash Valley RNA/ACEC.	K															
<i>Ivesia patellifera</i>	Kingston Mtns. ivesia	VASC	Rosaceae			BLMS	1B.3		G1	S2		No	03-Jun-13					K												
<i>Ivesia pickeringii</i>	Pickering's ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2.2		No																	S	

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<i>Ivesia rhypara var. rhypara</i>	grimy ivesia	VASC	Rosaceae			BLMS		W	G2T2	S2 (NV)		No	28-Apr-15	This plant has 5 small occurrences in the Surprise Field Office within one mile of each other in NV. Listed as Endangered by the State of Oregon.															K		
<i>Ivesia sericoleuca</i>	Plumas ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15							S											
<i>Ivesia webberi</i>	Webber's ivesia	VASC	Rosaceae	FT			1B.1	T	G1	S2 (CA); S1 (NV)	CE	No	28-Apr-15	Listed as Threatened by the U.S. Fish and Wildlife Service on June 3, 2014 (79 Federal Register 106: 31878-31883). Critical Habitat designated on June 3, 2014 (79 Federal Register 106: 32126-32155). On BLM lands in Sierra Valley. Specific occurrence 1 as mapped by CNDDDB does not include BLM lands within it, but 50 plants were found on BLM lands in the vicinity in 1992.						K											
<i>Juncus leiospermus var. leiospermus</i>	Red Bluff dwarf rush	VASC	Juncaceae			BLMS	1B.1		G2T2	S2		No	28-Apr-15																K		
<i>Kaernefeltia californica</i>	seaside thornbush	LICH	Parmeliaceae			BLMS			G3	None		No	16-Nov-10			K															
<i>Lagophylla diabolensis</i>	Diablo Range hare-leaf	VASC	Asteraceae			BLMS	1B.2		G2G3	S2S3		No	20-Jan-15	Recently described by Baldwin, B.G. 2013. Lagophylla diabolensis (Compositae-Madiinae), a new hare-leaf from the southern Diablo Range, California. Madroño 60(3): 249-254. Final decision to add to list 1B.2 made on 1/17/2014. At least 5 occurrences on BLM lands in Hollister FO.																	
<i>Lasthenia californica subsp. macrantha</i>	perennial goldfields	VASC	Asteraceae			BLMS	1B.2		G3T2	S2		No	17-Mar-15	Known from the Stornetta Unit, per the following collections: JEPS21849, 1958, and CAS514082, 1967.																K	
<i>Lasthenia conjugens</i>	Contra Costa goldfields	VASC	Asteraceae	FE			1B.1		G1	S1		Yes	13-Sep-12	Fort Ord.																	
<i>Lasthenia glabrata subsp. coulteri</i>	Coulter's goldfields	VASC	Asteraceae			BLMS	1B.1		G4T2	S2		No	28-Apr-15				K														
<i>Layia carnosa</i>	beach layia	VASC	Asteraceae	FE	SE		1B.1		G2	S2		Yes	13-Sep-12			K															

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<i>Layia discoidea</i>	rayless tidytips	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	28-Apr-15									K								
<i>Layia heterotricha</i>	pale-yellow layia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	13-Sep-12			K						K								
<i>Layia jonesii</i>	Jones' layia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			S														
<i>Layia leucopappa</i>	Comanche Point layia	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	03-Jun-13			S														
<i>Layia munzii</i>	Munz's tidy-tips	VASC	Asteraceae			BLMS	1B.2		G1	S1		No	03-Jun-13			K														
<i>Layia septentrionalis</i>	Colusa layia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15												S			S		
<i>Legenere limosa</i>	legenere	VASC	Campanulaceae			BLMS	1B.1		G2	S2		No	28-Apr-15												K					
<i>Lepechinia ganderi</i>	Gander's pitcher-sage	VASC	Lamiaceae			BLMS	1B.3		G3?	S3		No	28-Apr-15											K						
<i>Lepidium flavum var. felipense</i>	Borrego Valley pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G5T1	S1		No	06-Aug-13	This var. is not recognized by the Jepson Manual 2nd edition or by Flora North America. Changed from "S" in Palm Springs to "S" in El Centro on 8/6/2013 because CNDDDB Occurrence 1, which has some BLM lands within the nonspecific 1-mile radius circle, is in the El Centro Field Office, not the Palm Springs Field Office. No occurrences are currently reported within the boundaries of the Palm Springs Field Office.							S									
<i>Lepidium jaredii subsp. album</i>	Panoche pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	03-Jun-13	This subsp. not recognized by Jepson Manual 1st or 2nd editions or by Flora North America.																
<i>Lepidium jaredii subsp. jaredii</i>	Jared's pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G2T1T2	S1S2		No	28-Apr-15	Subspecies of <i>L. jaredii</i> are not recognized in Jepson Manual 1st or 2nd editions or by Flora North America.			K													
<i>Leptosiphon nuttallii subsp. howellii</i>	Mt. Tedoc linanthus	VASC	Polemoniaceae			BLMS	1B.3		G5T2	S2		No	13-Sep-12	Formerly <i>Linanthus nuttallii</i> Mlkn. Subsp. <i>howellii</i> Nelson & Patterson.												S				
<i>Leptosyne hamiltonii</i>	Mt. Hamilton coreopsis	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Coreopsis hamiltonii</i> (Elmer) H.K. Sharsm.								K								
<i>Leucogaster citrinus</i>	'yellow false truffle'	FUNG	Leucogastraceae			BLMS			G3G4	S1S2		No	28-Apr-15			K														
<i>Lewisia cantelovii</i>	Cantelow's lewisia	VASC	Portulacaceae			BLMS	1B.2		G3	S3		No	13-Sep-12										K		S					

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<i>Loeflingia squarrosa var. artemisiarum</i>	Sagebrush loeflingia	VASC	Caryophyllaceae			BLMS	2B.2		G5T2T3	S2		No	28-Apr-15	Known to CA from only Lassen County (6 occ), Inyo County (5 occ), and two occurrences from Kern and Los Angeles counties. Three occurrences are on BLM lands within the Eagle Lake Field Office, 3 on private, and disjunct. Threatened by livestock trampling.					K	K									S	
<i>Lomatium congdonii</i>	Congdon's lomatium	VASC	Apiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	On BLM lands in the Red Hills, Tuolumne County.									K							
<i>Lomatium roseanum</i>	adobe lomatium	VASC	Apiaceae			BLMS	1B.2	W	G2G3	S2 (CA); S2 (NV)		No	03-Jun-13	Mike Dolan found ca. 500 plants on Likely Tablelands, in low sage infested with medusahead. Lat: 41.271339 degrees N, Long: -120.493347 degrees W; above and to south of Romero Creek, 4,640', clay loam soil.	K														S	
<i>Lomatium shevockii</i>	Owens Peak lomatium	VASC	Apiaceae			BLMS	1B.3		G2	S2		No	03-Jun-13				K											K		
<i>Lupinus citrinus var. citrinus</i>	orange lupine	VASC	Fabaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15				S													
<i>Lupinus citrinus var. deflexus</i>	Mariposa lupine	VASC	Fabaceae		ST	BLMS	1B.2		G2T1	S1		No	13-Sep-12	Previously shown as S in the Hollister Field Office, a holdover from the time that Hollister managed BLM lands in Mariposa County. Removed as S from Hollister and put as S in the Mother Lode Field Office. There are occurrences within 550 m from isolated BLM lands in T6S,R 19E, S6, MDM.											S					
<i>Lupinus duranii</i>	Mono Lake lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15						K											
<i>Lupinus excubitus var. medius</i>	Mountain Springs bush lupine	VASC	Fabaceae			BLMS	1B.3		G4T2T3	S2		No															K		K	
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	VASC	Fabaceae			BLMS	1B.2		G1	S1		No	28-Apr-15			S														

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<i>Lupinus magnificus var. hesperius</i>	McGee Meadows lupine	VASC	Fabaceae			BLMS	1B.3		G3T2Q	S2		No	28-Apr-15	Jepson Manual 2nd edition, equivocal about whether to recognize this variety, states: "If recognized taxonomically, straight-keeled pls from SNE assignable to <i>Lupinus magnificus var. hesperius</i> (A. Heller) C.P. Sm., McGee Meadows lupine." After review, CNPS and CNDDDB kept as 1B.3 by decision dated Feb. 8, 2012. Occurs on Mt. Tom.					K										
<i>Lupinus magnificus var. magnificus</i>	Panamint Mtns. lupine	VASC	Fabaceae			BLMS	1B.2		G3T2Q	S2		No	03-Jun-13					S									K		
<i>Lupinus sericatus</i>	Cobb Mountain lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Walker Ridge/Bear Creek, Sulphur Creek sub-watershed (Source: Jim Weigand).															K
<i>Lupinus spectabilis</i>	shaggyhair lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15										K						
<i>Lupinus uncialis</i>	lilliput lupine	VASC	Fabaceae			BLMS	2B.2		G4	S2		No	28-Apr-15	Five occurrences known in Alturas Field Office. Twenty total occurrences in CA, most on private lands, and some converted to homesites. Disjunct in CA. CA occurrences important for maintaining genetic viability of the species. Threats include grazing.	K														
<i>Madia radiata</i>	showy golden madia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No				S						K							
<i>Malacothamnus aboriginum</i>	Indian Valley bush mallow	VASC	Malvaceae			BLMS	1B.2		G2	S2		No	13-Sep-12									K							
<i>Malacothamnus hallii</i>	Hall's bush-mallow	VASC	Malvaceae			BLMS	1B.2		G2Q	S2		No	18-Sep-12	CNDDDB Occurrence 38, population found on BLM lands on 6/2011.															K
<i>Malacothamnus palmeri var. involucratus</i>	Carmel Valley bush-mallow	VASC	Malvaceae			BLMS	1B.2		G3T3Q	S3		No	28-Apr-15									K							
<i>Malacothamnus palmeri var. lucianus</i>	Arroyo Seco bush-mallow	VASC	Malvaceae			BLMS	1B.2		G3T1Q	S1		No	28-Apr-15									K							
<i>Malacothrix saxatilis var. arachnoidea</i>	Carmel Valley malacothrix	VASC	Asteraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15									S							

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<i>Menodora spinescens</i> var. <i>mohavensis</i>	Mojave menodora	VASC	Oleaceae			BLMS	1B.2		G4T2T3	S2S3		No	18-Sep-12	CNDDDB mapped occurrences on BLM lands. One, Occurrence 10, on BLM lands slated for renewable energy.				K											
<i>Mentzelia inyoensis</i>	Inyo blazing star	VASC	Loasaceae			BLMS	1B.3	W	G3	S3		No	28-Apr-15	According to Anne Halford we have occurrences in Fish Slough and Travertine Hot Springs, and there's a very large population on the Inyo National Forest near Black Point (Mono Lake).				K											
<i>Mentzelia polita</i>	polished blazing star	VASC	Loasaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	CNDDDB maps one nonspecific occurrence on BLM land just north of the Eastern Mojave National Preserve on the Clark Mountain quad. CNPS Rare Plant Treasure Hunt found a new occurrence (CNDDDB Occurrence No. 3) on the Ivanpah Lake quad.									K						
<i>Mentzelia tridentata</i>	creamy blazing star	VASC	Loasaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	E. of Cuddeback Lake.												S			
<i>Microseris paludosa</i>	marsh microseris	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Known from the Stornetta Unit, per the following collection: CAS514442, 1968.															K
<i>Mimulus evanescens</i>	ephemeral monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G3	S2		No	28-Apr-15		K				S								S		
<i>Mimulus filicaulis</i>	slender-stemmed monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K							
<i>Mimulus gracilipes</i>	slender-stalked monkerflower	VASC	Phrymaceae			BLMS	1B.2		G2G3	S2S3		No	16-Nov-10				S												
<i>Mimulus mohavensis</i>	Mojave monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	13-Sep-12				K												
<i>Mimulus norrisii</i>	Kaweah monkeyflower	VASC	Phrymaceae			BLMS	1B.3		G2	S2		No	28-Apr-15			K													
<i>Mimulus pictus</i>	Calico monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	28-Apr-15			K													
<i>Mimulus pulchellus</i>	pansy monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2G3	S2S3		No	13-Sep-12									K							
<i>Mimulus shevockii</i>	Kelso Creek monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	13-Sep-12			K											K		
<i>Minuartia howellii</i>	Howell's sandwort	VASC	Caryophyllaceae			BLMS	1B.3		G4	S2		No	13-Sep-12												S				
<i>Minuartia stolonifera</i>	Scott Mtn. sandwort	VASC	Caryophyllaceae			BLMS	1B.3		G2	S2		No	03-Jun-13												S				

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<i>Monardella beneolens</i>	sweet-smelling monardella	VASC	Lamiaceae			BLMS	1B.3		G1	S1		No	03-Jun-13	S. Sierra Nevada.														K			
<i>Monardella boydii</i>	Boyd's monardella	VASC	Lamiaceae			BLMS	1B.2		G2Q	S2		No	13-Sep-12	Specific CNDDDB occurrences on BLM lands in Rodman Mtn Wilderness and Ord Mtn.				K													
<i>Monardella eremicola</i>	Clark Mountain monardella	VASC	Lamiaceae			BLMS	1B.3		G2G3Q	S2S3		No	18-Sep-12	This species was added as California Rare Plant Rank 1B.3 on 12-16-2011. The CNDDDB maps three occurrences on BLM lands in the Kingston Mountains, all of which list BLM as the landowner.										K							
<i>Monardella hypoleuca subsp. lanata</i>	felt-leaved monardella	VASC	Lamiaceae			BLMS	1B.2		G4T3	S3		No	28-Apr-15	CNDDDB Occurrence 2 is on BLM lands on Otay Mountain.											K						
<i>Monardella linoides subsp. oblonga</i>	Tehachapi monardella	VASC	Lamiaceae			BLMS	1B.3		G5T2	S2		No	28-Apr-15	CNDDDB maps specific occurrences on BLM in the Tehachapi Mountains.													K				
<i>Monardella nana subsp. leptosiphon</i>	San Felipe monardella	VASC	Lamiaceae			BLMS	1B.2		G4G5T2 Q	S2		No	03-Jun-13	Kevin Doran of the Palm Springs Field Office received a comment from the BLM Washington Office inquiring why the draft South Coast RMP did not list this as a SS plant. Review of RareFind information on 1-13-2011 shows that the plant is not very close to public lands in Palm Springs (it mostly occurs on higher elevation Forest Service lands), but that Occurrence 12 is close to public lands in El Centro (Banner Canyon area). CNPS and CNDDDB originally considered dropping the species from its lists because The Jepson Manual, Second Edition, does not recognize any of the subspecies of <i>M. nana</i> . However, following a review on the CNPS Forum, the decision was made on 9-4-2012 to retain the taxon as a California Rare Plant Rank 1B.2 plant.										S							
<i>Monardella robisonii</i>	Robison monardella	VASC	Lamiaceae			BLMS	1B.3		G3	S3		No	13-Sep-12					K						K	S						

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<i>Monardella sinuata subsp. nigrescens</i>	northern curly-leaved monardella	VASC	Lamiaceae			BLMS	1B.2		G3T2	S2		No	26-Jan-15	Described by Elvin, M.A. and A.C. Sanders. 2009. Nomenclatural changes for Monardella (Lamiaceae) in California. Novon 19(3): 315-345. Added to CDFW/CNPS list as 1B.2 on 12-31-2013. At Fort Ord. Mapped mostly on Army lands but certainly to be expected on BLM (and the Army lands may be transferred to BLM in the future).							S								

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<i>Monardella undulata</i> <i>subsp. undulata</i>	San Luis Obispo monardella	VASC	Lamiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>M. frutescens</i> (Hoov.) Jokerst. Occurs on BLM lands in the Point Sal ACEC (Occurrence 31 in the CNDDDB). See Elvin, M. A. and A. C. Sanders. 2009. Nomenclatural changes for <i>Monardella</i> (Lamiaceae) in California. Novon 19:315-343.			K													
<i>Monardella venosa</i>	veiny monardella	VASC	Lamiaceae			BLMS	1B.1		G1	S1		No	03-Jun-13	Formerly <i>M. douglasii</i> Benth. var. <i>venosa</i> (Torr.) Jeps.											S					
<i>Monolopia congdonii</i>	San Joaquin woolly threads	VASC	Asteraceae	FE			1B.2		G2	S3		Yes	28-Apr-15	Formerly <i>Lembertia congdonii</i> (A. Gray) Greene.			K													
<i>Mycena quinaultensis</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G2	S3		No	28-Apr-15			K														
<i>Navarretia leucocephala</i> <i>subsp. bakeri</i>	Baker's navarretia	VASC	Polemoniaceae			BLMS	1B.1		G4T2	S2		No	13-Sep-12												S					
<i>Navarretia nigelliformis</i> <i>subsp. radians</i>	shining navarretia	VASC	Polemoniaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12	Mason collection along Clear Creek Rd. Collection by Michael Denslow, Vern Yadon, and Julie Anne Delgado from a north fork of Cantua Creek; coordinates at Consortium of CA Herbaria are on BLM lands.																
<i>Navarretia setiloba</i>	Piute Mountains navarretia	VASC	Polemoniaceae			BLMS	1B.1		G2	S2		No	03-Jun-13				K													
<i>Nemacladus twisselmannii</i>	Twisselmann's nemacladus	VASC	Campanulaceae		SR	BLMS	1B.2		G1	S1		No	03-Jun-13				S													
<i>Neviusia cliftonii</i>	Shasta snow-wreath	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15												S					
<i>Nitrophila mohavensis</i>	Amargosa niterwort	VASC	Amaranthaceae	FE	SE		1B.1		G1	S1	CE	Yes	13-Sep-12	Formerly included in the family Chenopodiaceae but now considered by the Jepson Manual, 2nd edition, to be a member of the family Amaranthaceae.				K												
<i>Nolina interrata</i>	Dehesa nolina, bear grass	VASC	Ruscaceae		SE	BLMS	1B.1		G2	S2		No	13-Sep-12											S						
<i>Oenothera wolfii</i>	Wolf's evening-primrose	VASC	Onagraceae			BLMS	1B.1		G1	S1		No	03-Jun-13			S														

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<i>Opuntia basilaris var. brachyclada</i>	short-joint beavertail	VASC	Cactaceae			BLMS	1B.2		G5T3	S3		No	06-Aug-13	Until March 8, 2004, this var. had been considered K in both Needles and Barstow. But the Jepson Manual does not consider this a desert species, and a report by Pamela MacKay calls into question whether it ever occurred in the eastern Mojave. The draft BLM West Mojave Plan states that it only occurs on private lands in the WEMO planning area. It was therefore been changed to "S" in both Needles and Barstow. The CNPS Rare Plant Treasure Hunt documented an occurrence about 1 mile north of Cajon Pass on BLM land in 2010. The taxon has therefore been moved back to "K" for Barstow. On 8/6/2013 the taxon was added as "S" to the list for Palm Springs based on the fact that CNDDDB nonspecific Occurrence 107 has some BLM lands within the mapped 4/5 mile radius circle.			K								S	S					
<i>Opuntia basilaris var. treleasei</i>	Bakersfield cactus	VASC	Cactaceae	FE	SE		1B.1		G5T1	S1		No	27-Jun-13	The Fish and Wildlife Service uses the name <i>O. treleasei</i> J.M. Coult., but both Jepson Manual 1st and 2nd editions use the nomenclature shown here. Occurs on split estate (private surface, BLM subsurface) in the Bakersfield Field Office. CNDDDB occurrences 51 and 54 are very close to BLM lands in the Ridgecrest Field Office.			S											S			
<i>Orcuttia californica</i>	California orcutt grass	VASC	Poaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12																	S	
<i>Orcuttia inaequalis</i>	San Joaquin Valley orcutt grass	VASC	Poaceae	FT	SE		1B.1		G1	S1		Yes	11-Mar-13	This was formerly designated as K from the Hollister Field Office, but this was a holdover from the time that Hollister managed a part of what is now managed by the Bakersfield FO.			K														

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<i>Orcuttia pilosa</i>	hairy orcutt grass	VASC	Poaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12												S				
<i>Orcuttia tenuis</i>	slender orcutt grass	VASC	Poaceae	FT	SE		1B.1		G2	S2		Yes	13-Sep-12	This is a vernal pool plant. Only one known population of this plant occurs in the Alturas Field Office.	K										K				
<i>Oreostemma elatum</i>	tall alpine aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15						S										
<i>Orthocarpus pachystachyus</i>	Shasta orthocarpus	VASC	Orobanchaceae			BLMS	1B.1		G1	S1		No	16-Nov-10	Previously thought to be extinct.											S				
<i>Orthodontium gracile</i>	slender thread moss	BRYO	Bryaceae			BLMS			G5	S2S3		No	28-Apr-15		S														
<i>Packera eurycephala var. lewisrosei</i>	cut-leaved ragwort	VASC	Asteraceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Formerly <i>Senecio eurycephalus</i> Torrey & A. Gray var. <i>lewisrosei</i> (J.T. Howell) T.M. Barkley.											K				
<i>Packera ganderi</i>	Gander's butterweed	VASC	Asteraceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Senecio ganderi</i> T.M. Barkley & R.M. Beauch. Known on Potrero Mt. (Potrero Peak in spring 2007).											K				
<i>Packera layneae</i>	Layne's butterweed	VASC	Asteraceae	FT	SR		1B.2		G2	S2		No	13-Sep-12	Formerly <i>Senecio layneae</i> Greene.									K		S				
<i>Palafoxia arida var. gigantea</i>	giant Spanish needle	VASC	Asteraceae			BLMS	1B.3		G5T3	S2		No	13-Sep-12							K									
<i>Panicum acuminatum var. thermale</i>	Geyser's panicum	VASC	Poaceae		SE	BLMS	1B.2		G5T2Q	S2		No	28-Mar-13	Formerly <i>Dichanthelium lanuginosum</i> (Ell.) Gould var. <i>thermale</i> (Boland.) Spellenberg. Rare Plant Rank changed from 1B.1 to 1B.2 by CNPS/CDFW on 9-12-2012.															S
<i>Pannaria rubiginosa</i>	petaled mouse	LICH	Pannariaceae			BLMS			G3G5	S1		No	28-Apr-15		K														
<i>Paronychia ahartii</i>	Ahart's paronychia	VASC	Carophyllaceae			BLMS	1B.1		G2	S2		No	13-Sep-12												K				

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<i>Pedicularis centranthera</i>	dwarf lousewort	VASC	Orobanchaceae			BLMS	2B.3		G4	S2		No	28-Apr-15	Only five known occurrences form CA, all from Secret Valley in Lassen Co, on BLM lands managed by the Eagle Lake Field Office. These occurrences are rather disjunct from Harney and Lake counties in OR and primarily the eastern half of NV.						K											
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	VASC	Fabaceae			BLMS	1B.2		G3	S2		No	13-Sep-12	Reranked from California Rare Plant Rank 4.3 to 1B.2 on 6-29-2011. CNDDDB Occurrence 22 occurs on BLM lands in the Needles Field Office near Kingston Wash. Several other occurrences are either on or near BLM lands in the Barstow Field Office.				K													
<i>Penstemon albomarginatus</i>	white-margined beardtongue	VASC	Plantaginaceae			BLMS	1B.1		G2	S1		No	16-Nov-10					K													
<i>Penstemon bicolor subsp. roseus</i>	rosy two-toned beardtongue	VASC	Plantaginaceae			BLMS	1B.1		G3T3Q	S1		No	13-Sep-12	On BLM lands near Castle Mt. Mine and Hart Mt. Moved from CNPS List 2.2 to List 1B.1 on 12/8/09.																	
<i>Penstemon filiformis</i>	thread-leaved beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G3	S3		No	16-Nov-10																S		
<i>Penstemon fruticiformis var. amargosae</i>	Death Valley beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G4T3	S2		No	28-Apr-15					K													
<i>Penstemon janishiae</i>	Janish's beardtongue	VASC	Plantaginaceae			BLMS	2B.2		G4	S1		No	28-Apr-15	Status of populations unknown; some have been extirpated. Threats are logging and home site development. Rare in CA, OR, and ID. CNDDDB Occurrence 8 is mapped specifically on BLM lands. Occurrence 9 is nonspecific but entire mapped polygon on BLM. Changed from S to K on 8-19-09.	K																
<i>Penstemon personatus</i>	closed-throated beardtongue	VASC	Plantaginaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																	S	
<i>Penstemon stephensii</i>	Stephens' beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G2	S2		No	13-Sep-12					K													
<i>Penstemon sudans</i>	Susanville beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G3	S3		No	16-Nov-10							K											

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<i>Pentachaeta exilis subsp. aeolica</i>	slender pentachaeta	VASC	Asteraceae			BLMS	1B.2		G5T1	S1		No	13-Sep-12									K							
<i>Perityle inyoensis</i>	Inyo rock daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Occurrences 1 and 8 are entirely within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC. Occurrence 5 is partially within the ACEC, with the remainder on BLM land outside it.				S								K			
<i>Perityle villosa</i>	Hanaupah rock daisy	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	03-Jun-13	Inyo Mts.												K			
<i>Petalonyx thurberi subsp. gilmanii</i>	Death Valley sandpaper-plant	VASC	Loasaceae			BLMS	1B.3		G5T2	S2		No					K									K			
<i>Phacelia cookei</i>	Cooke's phacelia	VASC	Boraginaceae			BLMS	1B.1		G1	S1		No	16-Nov-10													S			
<i>Phacelia greenei</i>	Scott Valley phacelia	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	16-Nov-10													K			
<i>Phacelia inundata</i>	playa phacelia	VASC	Boraginaceae			BLMS	1B.3	W	G2	S2 (CA); S2? (NV)		No	28-Apr-15		S				K								S		
<i>Phacelia inyoensis</i>	Inyo phacelia	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Fish Slough and Alabama Hills.				K											
<i>Phacelia leonis</i>	Siskiyou phacelia	VASC	Boraginaceae			BLMS	1B.3		G3	S3		No	28-Apr-15													S			
<i>Phacelia monoensis</i>	Mono County phacelia	VASC	Boraginaceae			BLMS	1B.1	T	G3	S2		No	28-Apr-15				K												
<i>Phacelia mustelina</i>	Death Valley round-leaved phacelia	VASC	Boraginaceae			BLMS	1B.3		G2	S2		No	03-Jun-13	Saline Valley.												K			
<i>Phacelia nashiana</i>	Charlotte's phacelia	VASC	Boraginaceae			BLMS	1B.2		G3	S3		No	13-Sep-12			K										K			
<i>Phacelia novemmillensis</i>	Nine Mile Canyon phacelia	VASC	Boraginaceae			BLMS	1B.2		G3	S3		No	16-Nov-10			K										K			
<i>Phacelia parishii</i>	Parish's phacelia	VASC	Boraginaceae			BLMS	1B.1		G2G3	S1		No	03-Jun-13	The only known population on BLM lands in Southern California is within and immediately adjacent to a military maneuvering training area. This species was at one time considered extirpated in CA, but was rediscovered in 1989.			K												

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<i>Phacelia phacelioides</i>	Mount Diablo phacelia	VASC	Boraginaceae			BLMS	1B.2		G1	S1		No	03-Jun-13	Known but very uncommon within ACEC of Clear Creek Management Area acc 2009 Draft CCMA RMP/EIS. Six records from CCMA in Cal Flora 2009.								K							
<i>Phaeocollybia californica</i>	California phaeocollybia	FUNG	Cortinariaceae			BLMS			G3	None		No	28-Apr-15			K													S
<i>Phaeocollybia olivacea</i>	olive phaeocollybia	FUNG	Cortinariaceae			BLMS			G3	None		No	16-Nov-10			K													S
<i>Phaeocollybia piceae</i>	'spruce phaeocollybia'	FUNG	Cortinariaceae			BLMS			G3?	None		No	16-Nov-10			K													
<i>Phaeocollybia pseudofestiva</i>	no common name	FUNG	Cortinariaceae			BLMS			G3	None		No	16-Nov-10			S													
<i>Phaeocollybia scatesiae</i>	no common name	FUNG	Cortinariaceae			BLMS			G3?	None		No	16-Nov-10			K													
<i>Phaeocollybia spadicea</i>	spadicea phaeocollybia	FUNG	Cortinariaceae			BLMS			G3G4	None		No	16-Nov-10			K													S
<i>Phlox hirsuta</i>	Yreka phlox	VASC	Polemoniaceae	FE	SE		1B.2		G1	S1		Yes																	S
<i>Pholisma sonorae</i>	sand food	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Formerly included in the family Lennoaceae.								K							
<i>Piperia candida</i>	white-flowered rein orchid	VASC	Orchidaceae			BLMS	1B.2		G3?	S2		No	03-Jun-13	May be on public lands on Red Mt. Jennifer to check--will leave as suspected for now.		S													
<i>Piperia yadonii</i>	Yadon's rein orchid	VASC	Orchciaceae	FE			1B.1		G2	S2		Yes	13-Sep-12									K							
<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	03-Jun-13				S												
<i>Pleuropogon hooverianus</i>	Hoover's semaphore grass	VASC	Poaceae		ST	BLMS	1B.1		G2	S2		No	13-Sep-12			S													
<i>Poa diaboli</i>	Diablo Canyon blue grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	May be on BLM lands in Ruda Canyon, San Luis Obispo Co.			S												
<i>Polyctenium williamsiae</i>	Williams's combleaf	VASC	Brassicaceae			BLMS	1B.2	T	G2Q	S1 (CA); S2 (NV)	CE	No	03-Jun-13	Known in Bishop on BLM land in the Bodie area. Because the Jepson Manual 2nd Edition and the Flora of North America reduced this species to synonymy under P. fremontii, the species was recently reviewed and kept on List 1B.2 by CNPS and CNDDB by decision dated February 8, 2012.	S				K	S									

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<i>Polygonum polygaloides subsp. esotericum</i>	Modoc County knotweed	VASC	Polygonaceae			BLMS	1B.1		G4G5T3	S3		No	28-Apr-15		K														
<i>Polyozellus multiplex</i>	blue chanterelle	FUNG	Thelephoraceae			BLMS			G4G5	None		No	16-Nov-10		S														
<i>Potentilla basaltica</i>	Black Rock potentilla	VASC	Rosaceae	FC		BLMS	1B.3	T	G1	S1(CA); S1(NV)		No		Threats appear to be competition from meadow plant species.	K												S		
<i>Pseudobahia peirsonii</i>	Tulare pseudobahia	VASC	Asteraceae	FT	SE		1B.1		G1	S1		No				S													
<i>Ptilidium californicum</i>	Pacific fuzzwort	BRYO	Ptilidiaceae			BLMS	4.3		G3G4	S3?		No	03-Jun-13		K											S			
<i>Puccinellia howellii</i>	Howell's alkali-grass	VASC	Poaceae			BLMS	1B.1		G1	S1		No	03-Jun-13													S			
<i>Puccinellia parishii</i>	Parish's alkaligrass	VASC	Poaceae			BLMS	1B.1		G2G3	S1		No				S													
<i>Pyrocoma lucida</i>	sticky pyrrocoma	VASC	Asteraceae			BLMS	1B.2		G3	S3		No	13-Sep-12						K										
<i>Raillardella pringlei</i>	showy raillardella	VASC	Asteraceae			BLMS	1B.2		G3	S3		No													S				
<i>Ramalina pollinaria</i>	dusty ramalina	LICH	Ramalinaceae			BLMS			G4	None		No	16-Nov-10		K														
<i>Ramaria amyloidea</i>	'pinkish coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K														
<i>Ramaria aurantiisiccescens</i>	'yellow coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K														
<i>Ramaria cyaneigranosa</i>	'pinkish coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	28-Apr-15		S														
<i>Ramaria largentii</i>	'orange coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K														
<i>Rhynchospora californica</i>	California beaked-rush	VASC	Cyperaceae			BLMS	1B.1		G1	S1		No	03-Jun-13													S			
<i>Ribes canthariforme</i>	Moreno currant, San Diego currant	VASC	Grossulariaceae			BLMS	1B.3		G2	S2		No	16-Nov-10												S				
<i>Ribes tularense</i>	Sequoia gooseberry	VASC	Grossulariaceae			BLMS	1B.3		G2	S2		No	28-Apr-15			K													
<i>Rorippa columbiae</i>	Columbia yellow cress	VASC	Brassicaceae			BLMS	1B.2		G3	S1		No			S					S					S				
<i>Rupertia hallii</i>	Hall's rupertia	VASC	Fabaceae			BLMS	1B.2		G2G3	S2S3		No	28-Apr-15													K			
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	VASC	Alismataceae			BLMS	1B.2		G3	S3		No	13-Sep-12													K			

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<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Known to occur on BLM lands along or near currently designated OHV routes in the Old Dad Mountains south of the west end of the Mojave National Preserve acc. Jim Weigand.										K	K	K					
<i>Salvia greatae</i>	Orocopia sage	VASC	Lamiaceae			BLMS	1B.3		G2G3	S2S3		No	28-Apr-15	CNDDDB Occurrence # 11 is from the south edge of the Trilobite Wilderness near Amboy (Needles Field Office), far from the core of its range in southern Riverside County. The occurrence (shown on BLM lands) is unvouchered and was listed as <i>Salvia cf. funerea</i> by Spaulding and Twitchell in 1978. CNDDDB decided it must be <i>S. greatae</i> . Kam Barrows looked at the occurrence in 1986 and found no plants.										S	K						
<i>Sanicula saxatilis</i>	rock sanicle	VASC	Apiaceae		SR	BLMS	1B.2		G2	S2		No	13-Sep-12																		
<i>Sarcodon fuscoindicum</i>	violet hedgehog	FUNG	Bankeraceae			BLMS			G3	None		No	16-Nov-10			K															
<i>Sedum albomarginatum</i>	Feather River stonecrop	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15													S					
<i>Sedum laxum subsp. eastwoodiae</i>	Red Mountain stonecrop	VASC	Crassulaceae			BLMS	1B.2		G5T2	S2		No	03-Jun-13	Formerly <i>S. eastwoodiae</i> (Britton) Berger. Formerly a Federal candidate for listing, but removed from the candidate list on publication of a "Listing not warranted" finding by the U.S. Fish and Wildlife Service (Federal Register 79: 56029, September 18, 2014).		K															
<i>Sedum obtusatum subsp. paradisum</i>	Canyon Creek stonecrop	VASC	Crassulaceae			BLMS	1B.3		G4G5T2	S2		No	16-Nov-10	Formerly <i>S. paradisum</i> (M. Denton) M. Denton.												K					

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<i>Senecio clevelandii</i> var. <i>heterophyllus</i>	Red Hills ragwort	VASC	Asteraceae			BLMS	1B.2		G4?T2Q	S2?		Yes	03-Jun-13	<i>Senecio clevelandii</i> is now <i>Packera clevelandii</i> , but the combination <i>Packera clevelandii</i> var. <i>heterophylla</i> has not been validly published. This variety has been reduced to synonymy in the Jepson Manual 1st and 2nd editions. The treatment by Barkley in Jepson Manual 1 was not based on genetic work. Barkley's treatment has been continued by Trock in Jepson Manual 2 and Flora North America. CDFW, CNPS, and BLM will continue to recognize the variety until genetic work conclusively shows that vars. <i>clevelandii</i> and <i>heterophyllus</i> are actually the same taxon.																		
<i>Sidalcea covillei</i>	Owens Valley checkerbloom	VASC	Malvaceae		SE	BLMS	1B.1		G2	S2		No	28-Apr-15					K														
<i>Sidalcea hickmanii</i> subsp. <i>anomala</i>	Cuesta Pass checkerbloom	VASC	Malvaceae		SR	BLMS	1B.2		G3T1	S1		No	13-Sep-12			S						S										
<i>Sidalcea hickmanii</i> subsp. <i>parishii</i>	Parish's checkerbloom	VASC	Malvaceae		SR	BLMS	1B.2		G3T1	S1		No	03-Jun-13	This species used to be a Federal candidate but was removed from the candidate list in 2006.											S							
<i>Sidalcea keckii</i>	Keck's checkerbloom	VASC	Malvaceae	FE			1B.1		G1	S1		No	13-Sep-12				K															
<i>Sidalcea malviflora</i> subsp. <i>patula</i>	Siskiyou checkerbloom	VASC	Malvaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12			S																
<i>Sidalcea oregana</i> subsp. <i>eximia</i>	coast checkerbloom	VASC	Malvaceae			BLMS	1B.2		G5T1	S1		No				S																
<i>Sidalcea robusta</i>	Butte County checkerbloom	VASC	Malvaceae			BLMS	1B.2		G2	S2		No	13-Sep-12													K						
<i>Silene campanulata</i> subsp. <i>campanulata</i>	Red Mountain catchfly	VASC	Caryophyllaceae		SE	BLMS	4.2		G5T3Q	S3		No	28-Apr-15	Known from Red Mountain, Mendocino Co., Arcata FO; suspected on public lands in Ukiah FO from an occurrence near public lands in the Gilmore Peak 24k quad, Colusa Co.		K														S		

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<i>Silene occidentalis subsp. longistipitata</i>	long-stiped campion	VASC	Caryophyllaceae			BLMS	1B.2		G4T2Q	S2		No	16-Nov-10												S				
<i>Smilax jamesii</i>	English Peak greenbriar	VASC	Smilacaceae			BLMS	1B.3		G2	S2		No													S				
<i>Sowerbyella rhenana</i>	stalked orange peel fungus	FUNG	Pyrenemataceae			BLMS			G3G5	None		No	16-Nov-10		S										S				
<i>Sparassis crispa</i>	cauliflower mushroom	FUNG	Sparassidaceae			BLMS			None	None		No	16-Nov-10		K														
<i>Spathularia flavida</i>	fairy fan	FUNG	Cudoniaceae			BLMS			G4G5	None		No	16-Nov-10		K										S				
<i>Sphaeralcea rusbyi var. eremicola</i>	Rusby's desert-mallow	VASC	Malvaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12	CNPS Rare Plant Treasure Hunt found 19 new occurrences in 2010.									K						
<i>Stenotus lanuginosus var. lanuginosus</i>	woolly stenotus	VASC	Asteraceae			BLMS	2B.2		G5T3	S3		No	28-Apr-15	Known in CA from fewer than five occurrences. This species occurs at low numbers at each site.	K														
<i>Stipa exigua</i>	little ricegrass	VASC	Poaceae			BLMS	2B.3		G5	S2		No	03-Jun-13	Formerly <i>Oryzopsis exigua</i> Thurb. Known in CA from only two widely separated occurrences, one on public lands within the Eagle Lake Field Office which burned within the last few years. It is not common in NV. Threats include grazing and weed invasion following the recent fire.	K				K										S
<i>Streptanthus albidus subsp. albidus</i>	Metcalf Canyon jewel-flower	VASC	Brassicaceae	FE			1B.1		G2T1	S1		Yes	13-Sep-12									S							
<i>Streptanthus brachiatus subsp. brachiatus</i>	Socrates Mine jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		Yes	03-Jun-13																K
<i>Streptanthus brachiatus subsp. hoffmanii</i>	Freed's jewelflower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	16-Nov-10	This taxon was recognized in Jepson Manual 1st edition, but is reduced to synonymy under <i>S. brachiatus</i> in the 2nd edition.															K
<i>Streptanthus callistus</i>	Mount Hamilton jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G1	S1		No	13-Sep-12									S							

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<i>Streptanthus campestris</i>	southern jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	Nonspecific CNDDDB Occurrence 8, in the El Centro FO, is on lands slated for renewable energy; there are BLM lands within the mapped 1 mile radius circle, but there are also private lands. Occurrence 1, in the Palm Springs FO, contains BLM lands within the mapped 1 mile radius circle, but most of the lands within the circle are private.							S									
<i>Streptanthus cordatus</i> var. <i>piutensis</i>	Piute Mountains jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G5T1	S1		No	03-Jun-13				K										K			
<i>Streptanthus glandulosus</i> subsp. <i>hoffmannii</i>	Hoffmann's jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G4TH	SH		No	16-Nov-10	Elevated from <i>S. g.</i> var. <i>hoffmannii</i> Kruckeberg to subsp. <i>hoffmannii</i> in Jepson Manual 2nd edition.																S
<i>Streptanthus morrisonii</i> subsp. <i>elatus</i>	Three Peaks jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																K
<i>Streptanthus morrisonii</i> subsp. <i>hirtiflorus</i>	Dorr's Cabin jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		No	28-Apr-15	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																S
<i>Streptanthus morrisonii</i> subsp. <i>kruckebergii</i>	Kruckeberg's jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		No	03-Jun-13	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																K
<i>Streptanthus morrisonii</i> subsp. <i>morrisonii</i>	Morrison's jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15	The Jepson Manual 2nd edition does not recognize any subspecific taxa under <i>S. morrisonii</i> .																K
<i>Streptanthus oliganthus</i>	Masonic Mountain jewel-flower	VASC	Brassicaceae			BLMS	1B.2	W	G2G3	S2		No	28-Apr-15						K											
<i>Streptanthus vernalis</i>	early jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G1	S1		No	24-Aug-09	Known from only one occurrence on serpentine at Three Peaks.																K
<i>Stylocline citroleum</i>	oil neststraw	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	18-Sep-12	After reviewing CNDDDB, specific occurrence 18 has BLM lands within the mapped circle.			K													
<i>Stylocline masonii</i>	Mason neststraw	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	03-Jun-13				S													

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<i>Sulcaria isidiifera</i>	splitting yarn lichen	LICH	Alectoriaceae			BLMS	1B.1		G1	S1		No	26-Jan-15	A 5-acre BLM parcel is inside of the 1/5 mile circle mapped for Occurrence Number 4 of this species.			S													
<i>Symphotrichum greatae</i>	Greata's aster	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 41 in Ventura County abuts BLM lands in the Bakersfield Field Office. Occurrence 36 in Los Angeles County (Palm Springs Field Office) has small area of BLM lands within the nonspecific mapped 1-mile radius circle, this based on an 1893 collection.			S								S					
<i>Symphotrichum defoliatum</i>	San Bernardino aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Newly accepted name for <i>Aster bernardinus</i> H.M. Hall. CNDDDB maps nonspecific location close to BLM lands on Mt. Laguna.							S			S		S				
<i>Teloschistes flavicans</i>	orangebush lichen	LICH	Teloschistaceae			BLMS			G4G5	None		No	16-Nov-10			S														
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	VASC	Euphorbiaceae			BLMS	1B.2		G3?	S2		No	28-Apr-15																	
<i>Tetraphis geniculata</i>	bent-kneed four-tooth moss	BRYO	Tetraphidaceae			BLMS			G3G5	None		No	16-Nov-10			S														
<i>Thelypodium howellii</i> var. <i>howellii</i>	Howell's thelypodium	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	03-Jun-13		S					K									S	
<i>Thermopsis californica</i> var. <i>semota</i>	velvety false lupine	VASC	Fabaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Nonspecific CNDDDB Occurrence 16 borders BLM land slated for renewable energy.							S									
<i>Thysanocarpus rigidus</i>	Ridge Fringepod	VASC	Brassicaceae			BLMS	1B.2		G1G2	S1S2		No	03-Oct-11	Currently shown in 2 locations close to BLM lands in the Laguna Mountains.							S									
<i>Tortula californica</i>	California screw moss	BRYO	Pottiaceae			BLMS	1B.2		G2?	S2		No	13-Sep-12				S													
<i>Trifolium buckwestiorum</i>	Santa Cruz clover	VASC	Fabaceae			BLMS	1B.1		G2	S2		No	03-Jun-13	Known from 3 locations at Fort Ord, one of which along road scheduled to be widened (entered 1/24/02).								K								
<i>Trifolium jokerstii</i>	Butte County golden clover	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	03-Jun-13																K	

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH	
<i>Trifolium kingii subsp. dedeckerae</i>	DeDecker's clover	VASC	Fabaceae			BLMS	1B.3		G2	S2		No	28-Apr-15	DFG and CNPS still have as <i>T. dedeckerae</i> J.M Gillett. Was <i>Trifolium macilentum</i> var. <i>dedeckerae</i> (J.M. Gillett) Barneby in Jepson Manual 1st edition. The treatment used here is the treatment in Jepson Manual 2nd edition.			S													K
<i>Trifolium polyodon</i>	Pacific Grove clover	VASC	Fabaceae		SR	BLMS	1B.1		G1	S1		No	03-Jun-13									K								
<i>Triteleia piutensis</i>	Piute Mountains triteleia	VASC	Themidaceae			BLMS	1B.1		G1	S1		No	20-Jan-15	Recently described by Kentner, E. and K. Steiner. 2014. A new species of <i>Triteleia</i> (Themidaceae) from the southern Sierra Nevada. Madroño 61(2): 227-230. Added to CDFW/CNPS list on 7/24/2014.			K													
<i>Usnea longissima</i>	long beard lichen	LICH	Parmeliaceae			BLMS	4.2		G4	S4		No	28-Apr-15			K														
<i>Verbena californica</i>	Red Hills vervain	VASC	Verbenaceae	FT	ST		1B.1		G2	S2		No	13-Sep-12										K							
<i>Vermilacinia cephalota</i>	powdery fog lichen	LICH	Ramalinaceae			BLMS			G3G4	None		No	16-Nov-10	Formerly <i>Niebla cephalota</i> (Tuck.) Rundel & Bowler, which the PLANTS database treats as a synonym.		K														
<i>Wyethia reticulata</i>	El Dorado mule ears	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	FWS Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills addresses this species even though it's not federally listed.									K							
<i>Xylorhiza cognata</i>	Mecca-aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Occurs on BLM lands along or near OHV routes and trails in the Meccacopia Special Recreation Area acc. Jim Weigand.											K					
<i>Xylorhiza orcuttii</i>	Orcutt's woody aster	VASC	Asteraceae			BLMS	1B.2		G2G3	S2		No	13-Sep-12																	

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH		
<i>Zeltnera namophila</i>	spring-loving centaury	VASC	Gentianaceae	FT				t	G2Q	S2 (Nevada)	CE	Yes	28-Apr-15	Formerly <i>Centaurium namophilum</i> Reveal, C.R. Boome, & Beatley, this species is now treated as <i>Zeltnera namophila</i> in the Jepson Manual, 2nd edition. Although the CNPS Inventory, accessed 8/8/2013, still treats this as <i>Centaurium namophilum</i> (var. <i>namophilum</i>) and states that the species does not occur in California, citing previous records they consider to be based on a misidentification of <i>C. exaltatum</i> (Griseb.) Piper, the Jepson Manual 2 believes that the specimens referred to <i>C. exaltatum</i> are in fact <i>Z. namophila</i> . This species is almost certainly in the Carson Slough area of the Barstow Field Office.				K													

Type of Plant: BRYO = Bryophyte; FUNG = Fungus; LICH = Lichen; VASC = Vascular plant; Federal Status: FE = Federally Endangered; FT = Federally Threatened; FC = Federal Candidate; FP = Proposed for Federal Listing; FD = Federally Delisted. State of California (CA) Status: SE = State Endangered; ST = State Threatened; SR = State Rare. California Rare Plant Rank: 1A = Plants presumed extinct in CA; 1B = Plants rare, threatened, or endangered in CA and elsewhere; 2 = Plants rare, threatened, or endangered in CA, but more common elsewhere; 3 = Plants about which more information is needed; 4 = Plants of limited distribution – a watch list. Decimals following the CA Rare Plant Rank Numbers: x.1 = Seriously endangered in CA; x.2 = Fairly endangered in CA; x.3 = Not very endangered in CA. Nevada Native Plant Society (NNPS) Status: W = Watch List. State of Nevada (NV) Status: CE = Critically Endangered; CE# = Proposed for Critically Endangered. Global and State Rank: The Global Rank is assigned by NatureServe and reflects the overall condition of the element throughout its global range; G-ranks are used for species as a whole, T-ranks for subspecies; the State (S) Rank is assigned by the State Heritage Program and reflects the overall condition of the element within a State. Code meanings can be found at: <http://www.natureserve.org/explorer/ranking.htm#interpret>. Comments: Additional information, only provided for some plants. Date Updated: This field is provided to show when changes or updates were last made to an element; this tracking was implemented only in recent years, so the field is blank for most elements. K or S under BLM field offices: K = Known to occur on BLM lands managed by that field office; S = Suspected to occur on BLM lands managed by that field office.

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
El Centro	40 Species					
	Mammal					
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Cave myotis	Myotis velifer			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Palm Springs little pocket mouse	Perognathus longimembris bangsi			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Arizona bell's vireo	Vireo bellii arizonae		SE	BLMS	
	Brown pelican	Pelecanus occidentalis	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Elf owl	Micrathene whitneyi		SE	BLMS	
	Gila woodpecker	Melanerpes uropygialis		SE	BLMS	
	Gilded flicker	Colaptes chrysoides		SE	BLMS	
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Lucy's warbler	Oreothlypis luciae			BLMS	SSC
	Mountain plover	Charadrius montanus			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	Yuma clapper rail	Rallus longirostris yumanensis	FE	ST		SF
	Reptile					
	Barefoot banded gecko	Coleonyx switaki		ST	BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Colorado Desert fringe-toed lizard	Uma notata			BLMS	

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Desert tortoise	Gopherus agassizii	FT	ST		
	Flat-tailed horned lizard	Phrynosoma mcalli			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	
	Two-striped garter snake	Thamnophis hammondi			BLMS	
Amphibian	Couch's spadefoot toad	Scaphiopus couchi			BLMS	
	Lowland leopard frog	Lithobates yavapaiensis			BLMS	
Fish	Colorado pikeminnow	Ptychocheilus lucius	FE	SE		SF
	Desert pupfish	Cyprinodon macularius	FE	SE		
	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
	Razorback sucker	Xyrauchen texanus	FE	SE		SF
	Unarmored threespine stickleback	Gasterosteus aculeatus williamsoni	FE	SE		SF

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

APPENDIX D

**California Department
of Fish and Wildlife
RareFind report**

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE RareFind

Query Summary:

Quad **IS** (Ogilby (3211477) **OR** Hedges (3211487))
AND County **IS** (Imperial)

Print

Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Anomala hardyorum	Hardy's dune beetle	Insects	IICOL30060	17	1	None	None	G1	S1	null	null	Desert dunes, Sonoran desert scrub
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	2	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Apiocera warneri	Glamis sand fly	Insects	IIDIP54020	1	1	None	None	G1G2	S1S2	null	null	Desert dunes
Astragalus insularis var. harwoodii	Harwood's milk-vetch	Dicots	PDFAB0F491	120	2	None	None	G5T4	S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes, Desert wash, Mojavean desert scrub
Calliandra eriophylla	pink fairy-duster	Dicots	PDFAB0N040	53	20	None	None	G5	S3	2B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Sonoran desert scrub
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	1	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran

													desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Croton wigginsii	Wiggins' croton	Dicots	PDEUP0H140	12	1	None	Rare	G2G3	S2	2B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes, Sonoran desert scrub	
Cyclocephala wandae	Wandae dune beetle	Insects	IICOL33020	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Ditaxis claryana	glandular ditaxis	Dicots	PDEUP080L0	26	1	None	None	G3G4	S2	2B.2	null	Desert wash, Mojavean desert scrub, Sonoran desert scrub	
Efferia macroxipha	Glamis robberfly	Insects	IIDIP07040	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	4	None	None	G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland	
Euparagia unidentata	Algodones euparagia	Insects	IIHYMBC010	3	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Gopherus agassizii	desert tortoise	Reptiles	ARAAF01012	970	13	Threatened	Threatened	G3	S2S3	null	IUCN_VU-Vulnerable	Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub	
Macrotus californicus	California leaf-nosed bat	Mammals	AMACB01010	46	11	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Riparian scrub, Sonoran desert scrub	
Melanerpes uropygialis	Gila woodpecker	Birds	ABNYF04150	62	1	None	Endangered	G5	S1	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Riparian forest, Riparian woodland	
Microbembex elegans	Algodones elegant sand wasp	Insects	IIHYM90010	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Myotis velifer	cave myotis	Mammals	AMACC01050	9	1	None	None	G5	S1	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_M-Medium Priority	Riparian scrub, Sonoran desert scrub	
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	AMACD04010	90	1	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_M-Medium Priority	Joshua tree woodland, Pinon & juniper woodlands, Riparian scrub, Sonoran desert scrub	
Palafoxia arida var. gigantea	giant spanish-needle	Dicots	PDAST6T012	6	2	None	None	G5T3?	S2	1B.3	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes	
Perdita	Algodones	Insects	IIHYM01130	1	1	None	None	G1G2	S1S2	null	null	Desert	

algodones	perdita												dunes
Perdita frontalis	Imperial Perdita	Insects	IIHYM01140	2	1	None	None	G1G2	S1S2	null	null		Desert dunes
Perdita stephanomeriae	a miner bee	Insects	IIHYM01840	3	1	None	None	GNR	S1S2	null	null		Desert dunes
Pholisma sonorae	sand food	Dicots	PDLNN02020	14	2	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		Desert dunes, Sonoran desert scrub
Phrynosoma mcallii	flat-tailed horned lizard	Reptiles	ARACF12040	340	6	None	None	G3	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened		Desert dunes, Mojavean desert scrub, Sonoran desert scrub
Poliophtila melanura	black-tailed gnatcatcher	Birds	ABPBJ08030	34	1	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern		Mojavean desert scrub, Sonoran desert scrub
Pseudocotalpa andrewsi	Andrew's dune scarab beetle	Insects	IICOL37020	29	1	None	None	G1	S1	null	null		Desert dunes, Sonoran desert scrub
Toxostoma crissale	Crissal thrasher	Birds	ABPBK06090	67	1	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		Riparian woodland
Toxostoma lecontei	Le Conte's thrasher	Birds	ABPBK06100	238	2	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern		Desert wash, Mojavean desert scrub, Sonoran desert scrub



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Ogilby (3211477) OR Hedges (3211487))
 AND County IS (Imperial)

Map Index Number: 63284	EO Index: 63376
Key Quad: Hedges (3211487)	Element Code: ABNYF04150
Occurrence Number: 30	Occurrence Last Updated: 2005-12-01

Scientific Name: <i>Melanerpes uropygialis</i>	Common Name: Gila woodpecker
Listing Status:	Rare Plant Rank:
Federal: None	
State: Endangered	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G5	USFWS_BCC-Birds of Conservation Concern
State: S1	

General Habitat: IN CALIFORNIA, INHABITS COTTONWOODS AND OTHER DESERT RIPARIAN TREES, SHADE TREES, AND DATE PALMS.	Micro Habitat: CAVITY NESTER IN RIPARIAN TREES OR SAGUARO CACTUS.
--	---

Last Date Observed: 2002-03-09	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-03-09	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
UNNAMED WASH SOUTH OF INDIAN WASH, ABOUT 2.25 MILES WEST OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
Ecological:
DESERT WASH WOODLAND WITH PALO VERDE & IRONWOOD SURROUNDED BY DISTURBED CREOSOTE BUSH SCRUB.

Threats:
OFF-ROAD VEHICLE USE.

General:
1 ADULT OBSERVED 9 MAR 2002.

PLSS: T14S, R20E, Sec. 34 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3642305 E699897	Latitude/Longitude: 32.90071 / -114.86272	Elevation (feet): 537

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
KON02F0001 KONECNY, J. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR MELANERPES UROPYGIALIS 2002-03-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541	EO Index: 25005
Key Quad: Hedges (3211487)	Element Code: ABPB08030
Occurrence Number: 31	Occurrence Last Updated: 1989-08-10

Scientific Name: <i>Polioptila melanura</i>	Common Name: black-tailed gnatcatcher
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_WL-Watch List
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G5	
State: S3S4	

General Habitat: PRIMARILY INHABITS WOODED DESERT WASH HABITATS; ALSO OCCURS IN DESERT SCRUB HABITAT, ESPECIALLY IN WINTER.	Micro Habitat: NESTS IN DESERT WASHES CONTAINING MESQUITE, PALO VERDE, IRONWOOD, ACACIA; ABSENT FROM AREAS WHERE SALT CEDAR INTRODUCED.
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Last Date Observed: 1977-06-07	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-06-07	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBSERVED DURING SUMMER 1977 STUDY; 13 BREEDING PAIRS ESTIMATED.

PLSS: T14S, R20E, Sec. 22, NE (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3645946 E700809	Latitude/Longitude: 32.93336 / -114.85219	Elevation (feet): 620

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
BLM80S0014 BLM - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR POLIOPTILA MELANURA LUCIDA, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN". 1980-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541

EO Index: 24395

Key Quad: Hedges (3211487)

Element Code: ABPBK06090

Occurrence Number: 47

Occurrence Last Updated: 1989-08-10

Scientific Name: *Toxostoma crissale*

Common Name: Crissal thrasher

Listing Status: **Federal:** None

Rare Plant Rank:

State: None

Other Lists: BLM_S-Sensitive
CDFW_SSC-Species of Special Concern
IUCN_LC-Least Concern

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

RESIDENT OF SOUTHEASTERN DESERTS IN DESERT RIPARIAN AND DESERT WASH HABITATS.

Micro Habitat:

NESTS IN DENSE VEGETATION ALONG STREAMS/WASHES; MESQUITE, SCREWBEAN MESQUITE, IRONWOOD, CATCLAW, ACACIA, ARROWWEED, WILLOW.

Last Date Observed: 1977-06-07

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1977-06-07

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBS DURING SUMMER 1977 STUDY; ESTIMATED THREE BREEDING PAIRS.

PLSS: T14S, R20E, Sec. 22 (S)

Accuracy: 1 mile

Area (acres): 0

UTM: Zone-11 N3645946 E700809

Latitude/Longitude: 32.93336 / -114.85219

Elevation (feet): 620

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

BLM80S0013 BLM - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR TOXOSTOMA DORSALE, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN". 1980-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06550
Key Quad: Ogilby (3211477)
Occurrence Number: 35

EO Index: 24533
Element Code: ABPBK06100
Occurrence Last Updated: 1989-08-10

Scientific Name: *Toxostoma lecontei*

Common Name: Le Conte's thrasher

Listing Status:
Federal: None
State: None
CNDDB Element Ranks:
Global: G4
State: S3

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_LC-Least Concern
 NABCI_RWL-Red Watch List
 USFWS_BCC-Birds of Conservation Concern

General Habitat:

DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.

Micro Habitat:

COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.

Last Date Observed: 1896-03-16
Last Survey Date: 1896-03-16
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:

OGILBY.

Detailed Location:

Ecological:

Threats:

General:

CAS SPECIMEN #55196.

PLSS: T15S, R20E, Sec. 35, NW (S)
UTM: Zone-11 N3633124 E702138

Accuracy: 1 mile
Latitude/Longitude: 32.81754 / -114.84079

Area (acres): 0
Elevation (feet): 360

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:

BLM80R0014 BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541	EO Index: 24493	
Key Quad: Hedges (3211487)	Element Code: ABPBK06100	
Occurrence Number: 88	Occurrence Last Updated: 1989-08-10	

Scientific Name: <i>Toxostoma lecontei</i>	Common Name: Le Conte's thrasher
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	NABCI_RWL-Red Watch List
	USFWS_BCC-Birds of Conservation Concern

General Habitat: DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.	Micro Habitat: COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.
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Last Date Observed: 1977-06-07	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-06-07	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBS DURING SUMMER 1977 STUDY; ESTIMATED ONE BREEDING PAIR.

PLSS: T14S, R20E, Sec. 22, NE (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3645946 E700809	Latitude/Longitude: 32.93336 / -114.85219	Elevation (feet): 620

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:

BLM80R0014 BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33092	EO Index: 3603	
Key Quad: Ogilby (3211477)	Element Code: AMACB01010	
Occurrence Number: 13	Occurrence Last Updated: 2007-04-03	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"CARGO MINE," IN JACKSON GULCH, ABOUT 3.5 MILES ENE OF OGILBY, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
THIS MINE IS PROTECTED BY A STURDY, HIGH CHAIN LINK FENCE, A LOCKED GATE, AND SIGNS. INDIVIDUALS WERE OBSERVED ROOSING ON 30 APR 1992. 1993-1999 NUMBERS REFER TO OUTFLIGHT COUNTS. 650-750 OUTFLIGHT COUNT (OFC) WINTER 1990/91.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE. THIS POPULATION EXPERIENCES FLUCTUATIONS, BASED ON ACTIONS IN NEARBY MINES.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
132 INDIVS APRIL, 260 OFC MAY, 152 OFC JUNE, 636 OFC DEC 1992. 109 26 JUNE; 207 3 JULY; 1462 10 DEC 1993. 764 WINTER 1994. 222 JUL 1995. 1289 JAN, 182 JUL 1996. 266 JAN, 195 JUN 1997. 221 JAN, 183 JUN 1998. 1292 JAN 1999.

PLSS: T15S, R21E, Sec. 20, SE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3635139 E707835	Latitude/Longitude: 32.83464 / -114.77952	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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- Sources:**
- BRO92F0019 BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-04-30
 - BRO92R0002 BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
 - BRO92R0003 BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
 - BRO93F0045 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-07-03
 - BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33093	EO Index: 3604
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 14	Occurrence Last Updated: 1995-04-04

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1993-12-14	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-12-14	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"NE OF CARGO MINE," VICINITY OF JACKSON GULCH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
1 ADULT OBSERVED ROOSTING.

PLSS: T15S, R21E (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3635466 E708291	Latitude/Longitude: 32.83750 / -114.77458	Elevation (feet): 880

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
BRO93F0046 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-12-14



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33096	EO Index: 3606	
Key Quad: Ogilby (3211477)	Element Code: AMACB01010	
Occurrence Number: 17	Occurrence Last Updated: 2007-03-05	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 2006-01-15	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-01-15	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"GUADALUPE MINE," IN THE VICINITY OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
2006 OBSERVATION FROM SHAFT OMR #13346.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
10 FEMALES AND 2 MALES OBSERVED ROOSTING ON 15 DECEMBER 1992; 10 OF THE BATS HAD BEEN PREVIOUSLY BANDED AND ROOSTED IN THE AMERICAN BOY MINE, WHICH IS NOW AN ACTIVE MINING SITE. GUANO DETECTED DURING SURVEY ON 15 JAN 2006.

PLSS: T15S, R21E, Sec. 16, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3637459 E709123	Latitude/Longitude: 32.85530 / -114.76525	Elevation (feet): 880

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO92F0023	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-12-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33095	EO Index: 3605	
Key Quad: Ogilby (3211477)	Element Code: AMACB01010	
Occurrence Number: 16	Occurrence Last Updated: 2007-04-03	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1996-07-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1996-07-03	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"PADRE MADRE CLAIM," SOUTH OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
ONE PORTION OF THIS ROOST IS LOCATED OUTSIDE THE FENCE AND ONE PART IS LOCATED INSIDE THE FENCE. INCLUDES SOUTH OF MINE IN INCLINE ON TOP OF HILL.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
ROOST SITE. OUTSIDE FENCE: 10 OBSERVED 2 MAY, 10 OBSERVED 18 JUN 1992; INSIDE FENCE: 8 OBSERVED ON 2 MAY, 6 OBSERVED ON 18 JUN 1992. OUTFLIGHT COUNT OF 55 + 25 ON 3 JUL 1996.

PLSS: T15S, R21E, Sec. 19, NE (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3635878 E706624	Latitude/Longitude: 32.84153 / -114.79229	Elevation (feet): 600

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BRO92F0021	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-05-02
BRO92F0022	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-05-02
BRO92R0002	BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
BRO92R0003	BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
BRO99U0001	BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33096	EO Index: 3606
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 17	Occurrence Last Updated: 2007-03-05

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 2006-01-15	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-01-15	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"GUADALUPE MINE," IN THE VICINITY OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
2006 OBSERVATION FROM SHAFT OMR #13346.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
10 FEMALES AND 2 MALES OBSERVED ROOSTING ON 15 DECEMBER 1992; 10 OF THE BATS HAD BEEN PREVIOUSLY BANDED AND ROOSTED IN THE AMERICAN BOY MINE, WHICH IS NOW AN ACTIVE MINING SITE. GUANO DETECTED DURING SURVEY ON 15 JAN 2006.

PLSS: T15S, R21E, Sec. 16, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3637459 E709123	Latitude/Longitude: 32.85530 / -114.76525	Elevation (feet): 880

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO92F0023	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-12-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33097	EO Index: 3607
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 18	Occurrence Last Updated: 2011-01-18

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1992-10-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1992-10-12	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"TYBO MINE," VICINITY OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
INCLUDES LOCALITY "AMERICAN GIRL MINE."

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
HISTORIC SITE. 150-200 OBS BY P. BROWN 1977. POPULATION HAS LIKELY DECREASED DUE TO RENEWED MINING IN THE AREA AND REMOVAL OF WASH VEGETATION. 4 INDIVIDUALS OBSERVED ROOSTING ON 12 OCTOBER 1992.

PLSS: T15S, R21E (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3637467 E707137	Latitude/Longitude: 32.85575 / -114.78645	Elevation (feet): 740

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

- BLM80R0014 BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX
- BRO92F0024 BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-12-10
- BRO93U0001 BROWN, P.E., R.D. BERRY & C. BROWN - ABSTRACT OF A PAPER PRESENTED AT THE CALIFORNIA MINING ASSOCIATION ANNUAL MEETING IN MONTEREY, MARCH 10, 1993. 1993-03-10



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26333	EO Index: 40808	
Key Quad: Hedges (3211487)	Element Code: AMACB01010	
Occurrence Number: 26	Occurrence Last Updated: 2007-04-03	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
MESQUITE ADIT, TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
GATED MINE ENTRANCE. LOCATED TO W OF THE GOLDEN RING. INCLUDES QUEEN INCLINE & MESQUITE MINE. ABOUT 80 OBS 1989. 12 CAPT/BANDED (C/B) FEB, 49 OBS JUL, 44 IN DEC 1990. 2 C/B MAY, 12 CAPT, 8 OBS DEC 1991. 3 OBS APR/MAY 1992.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREAT OF MINING - SITE IS UNDER CLAIM TO A MINING COMPANY, HUMAN DISTURBANCE, CLOSURE FOR HAZARD ABATEMENT.

General:
3 BANDED BATS CAPT JUN, 15 C/B DEC 1992. ~5 CAPT JUN, 2 IN JUL, 1 OBS DEC '93.1 OBS MAR, OBS IN JUN, 27 IN DEC '94. OBS MAR, 18 IN 6 JUL '95. 13 OBS IN JAN, OBS IN JUL '96.15 OBS JAN, OBS JUN '97. 13 OBS JAN, OBS JUN '98. 27 OBS JAN '99.

PLSS: T15S, R20E, Sec. 01, SW (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640372 E703297	Latitude/Longitude: 32.88266 / -114.82683	Elevation (feet): 700

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

- BRO92F0047 BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-04-30
- BRO92R0002 BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
- BRO92R0003 BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
- BRO93F0073 BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-06-28
- BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26334	EO Index: 40809	
Key Quad: Hedges (3211487)	Element Code: AMACB01010	
Occurrence Number: 27	Occurrence Last Updated: 2011-08-16	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
(GOLDEN) QUEEN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
1990 OBS MATERNITY ROOST. MESQUITE, GOLDEN KING & CROWN MINES & EAST & WEST SOVERIGN PROSPECT INCLUDED HERE. OBS EXITING INCLINE & SHAFT IN 1989 OBS & IN JUN 1992. 125 OBS AUG 1989. OBS FEB/JUL/DEC 1990. 2 OBS DEC 1991.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
RENEWED MINING, HUMAN DISTURBANCE, CLOSURE FOR HAZARD ABATEMENT.

General:
14 BANDED, 178 OBS MAY/JUN, 208 OBS DEC 1992. 40 OBS 29 JUN, 5 OBS JUL, 295 OBS DEC, 10 OBS DEC '93. OBS IN MAR/JUN/JUL/DEC '94. OBS MAR/JUL '95. 6 OBS JUN, 147 JAN/JUN/JUL '96. OBS JAN/JUN '97. 68 OBS JAN, 50 OBS JUN 1998. 190 OBS JAN '99.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640600 E703890	Latitude/Longitude: 32.88460 / -114.82044	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

BRO92F0048	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-26
BRO92F0049	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-20
BRO92F0050	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-19
BRO92F0051	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-20
BRO92F0052	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-05-01
BRO92R0002	BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
BRO92R0003	BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
BRO93F0047	BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-01-23
BRO93F0068	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-12-11
BRO93F0069	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-07-05
BRO93F0070	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-06-29
BRO93F0071	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-07-07
BRO93F0072	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-12-13
BRO98U0002	BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
BRO99U0002	BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 66655	EO Index: 68474
Key Quad: Hedges (3211487)	Element Code: AMACB01010
Occurrence Number: 31	Occurrence Last Updated: 2007-04-20

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 2006-01-25	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-01-25	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MUCHACHO MOUNTAINS, ABOUT 1.4 MI NORTH OF HEDGES.

Detailed Location:
SHAFT & ADIT OMR #13313 & 13316 AND DECLINE OMR #13320.

Ecological:
MATERNITY COLONY FOR MACROTUS CALIFORNICUS.

Threats:

General:
45 INDIVIDUALS OBSERVED IN A SIDE DRIFT OFF THE NORTHWEST BRANCH, 4 FEMALES CAPTURED, BANDED & RELEASED INSIDE THE MINE ON 25 JAN 2006.

PLSS: T14S, R20E, Sec. 36, W (S)	Accuracy: non-specific area	Area (acres): 156
UTM: Zone-11 N3642270 E703327	Latitude/Longitude: 32.89976 / -114.82608	Elevation (feet): 780

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO06R0002	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68784
Key Quad: Ogilby (3211477)
Occurrence Number: 40

EO Index: 69287
Element Code: AMACB01010
Occurrence Last Updated: 2007-04-10

Scientific Name: *Macrotus californicus*

Common Name: California leaf-nosed bat

Listing Status:
Federal: None
State: None
CNDDDB Element Ranks:
Global: G4
State: S3

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_LC-Least Concern
 WBWG_H-High Priority

General Habitat:
 DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.

Micro Habitat:
 NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.

Last Date Observed: 1999-01-17
Last Survey Date: 1999-01-17
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 AMERICAN BOY MINE. CARGO MUCHACHO MOUNTAINS, TUMCO WASH.

Detailed Location:

Ecological:

Threats:

General:
 MAINLY WINTER ROOST PRIOR TO CLOSURE IN 1992. 2 INDIVIDUALS OBSERVED EMERGING FROM ADIT IN JUN 1997. 1 INDIVIDUAL & GUANO OBSERVED IN JAN 1998. OUTFLIGHT COUNT OF 6 INDIVIDUALS AND GUANO OBSERVED 17 JAN 1999.

PLSS: T15S, R21E, Sec. 16, NW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3638222 E708635	Latitude/Longitude: 32.86227 / -114.77028	Elevation (feet): 740

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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- Sources:**
- BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06550	EO Index: 82343
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 46	Occurrence Last Updated: 2011-01-18

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1944-11-23	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1944-11-23	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
OGILBY.

Detailed Location:

Ecological:

Threats:

General:
2 FEMALES COLLECTED 30 MAY 1943. 4 MALES COLLECTED 24 NOV 1944 BY D.G. CONSTANTINE (LACM #11652-11657).

PLSS: T15S, R20E, Sec. 35 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633124 E702138	Latitude/Longitude: 32.81754 / -114.84079	Elevation (feet): 360

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BLM80R0014	BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX
CON44S0001	CONSTANTINE, D.G. - LACM RECORDS FOR MACROTUS CALIFORNICUS RECORDS FROM OGILBY 1944-11-24



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68363	EO Index: 68553
Key Quad: Hedges (3211487)	Element Code: AMACC01050
Occurrence Number: 10	Occurrence Last Updated: 2007-03-07

Scientific Name: <i>Myotis velifer</i>	Common Name: cave myotis
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5	CDFW_SSC-Species of Special Concern
State: S1	IUCN_LC-Least Concern
	WBWG_M-Medium Priority

General Habitat: LOWLANDS OF THE COLORADO RIVER AND ADJACENT MOUNTAIN RANGES.	Micro Habitat: REQUIRE CAVES OR MINES FOR ROOSTING.
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Last Date Observed: 2006-06-05	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-05	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MUCHACHO MOUNTAINS, ABOUT 1.5 MI NORTH OF HEDGES.

Detailed Location:
SHAFT OMR 13328 IN NW 1/4 OF SECTION 36, NEAR THE BASE OF A WEST FACING HILL. SHAFT WAS 10 X 10 X 50 FT DEEP WITH UNSTABLE LOOSE ROCK IN THE TOP 10 FEET.

Ecological:
Threats:

General:
1 BAT OBSERVED EXITING THE SHAFT AFTER DARK 5 JUN 2005. BAT APPEARED TO BE MYOTIS VELIFER BASED ON A COMPARISON OF OBSERVATION TIME WITH TIME OF ACOUSTIC RECORDS BUT IDENTIFICATION IS NOT CONFIRMED. M. VELIFER IS RARE HERE.

PLSS: T14S, R20E, Sec. 36, NW (S)	Accuracy: non-specific area	Area (acres): 151
UTM: Zone-11 N3643058 E703316	Latitude/Longitude: 32.90686 / -114.82603	Elevation (feet): 820

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
BRO06R0002 BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 91986	EO Index: 93061
Key Quad: Hedges (3211487)	Element Code: AMACC08010
Occurrence Number: 252	Occurrence Last Updated: 2014-04-07

Scientific Name: <i>Corynorhinus townsendii</i>	Common Name: Townsend's big-eared bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3G4	CDFW_SSC-Species of Special Concern
State: S2	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat: THROUGHOUT CALIFORNIA IN A WIDE VARIETY OF HABITATS. MOST COMMON IN MESIC SITES.	Micro Habitat: ROOSTS IN THE OPEN, HANGING FROM WALLS AND CEILINGS. ROOSTING SITES LIMITING. EXTREMELY SENSITIVE TO HUMAN DISTURBANCE.
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Last Date Observed: 1947-05-28	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1947-05-28	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 1.4 MI E OF OGILBY ROAD AT GOLD ROCK RANCH ROAD AND ABOUT 3.2 MI NW OF PASADENA PEAK.

Detailed Location:
MAPPED TO LOCALITY STATED AS "TUMCO MINE, 5 MI N, 2 MI E OGILBY."

Ecological:

Threats:

General:

1 MALE COLLECTED ON 28 MAY 1947 (MVZ #106720) BY S. BENSON.

PLSS: T15S, R20E, Sec. 01, SE (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3640199 E704351	Latitude/Longitude: 32.88090 / -114.81559	Elevation (feet): 830

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

BEN47S0006 BENSON, S. - MVZ #106720 1947-05-28



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 66500	EO Index: 18838	
Key Quad: Hedges (3211487)	Element Code: AMACC10010	
Occurrence Number: 21	Occurrence Last Updated: 2011-08-31	

Scientific Name: <i>Antrozous pallidus</i>	Common Name: pallid bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G5	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.	Micro Habitat: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.
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Last Date Observed: 1998-06-13	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1998-06-13	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
INCLUDES QUEEN INCLINE, TUMCO WASH, MESQUITE ADIT, TUMCO WASH, CROWN, QUEEN, W & E SOVEREIGN & TUMCO MINE. OBS FLYING IN CAVE IN 1992. MATERNITY COLONY OBS IN 1998.

Ecological:
HABITAT SURROUNDING ROOST CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
THREATENED BY A PROPOSAL TO RENEW MINING.

General:
1 M COLL 17 JUL 1958 (MVZ #122877). 14 OBS AUG 1989. 4 JUV OBS JUN 1992. 5 IN CAVE, 87 IN OUTFLIGHT COUNT MIXED W/ MACROTUS, 25 CAPT 26 JUN-1 JUL 1993. OBS IN MAR/JUN 1994, MAR 1995, JUL 1996, JUN 1997, & JUN 1998.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3640196 E703630	Latitude/Longitude: 32.88100 / -114.82330	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477), Hedges (3211487)
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- Sources:**
- BRO92R0002 BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
 - BRO93F0003 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR ANTROZOUS PALLIDUS (ROOST SITE) 1993-06-27
 - BRO93F0004 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR ANTROZOUS PALLIDUS (ROOST SITE) 1993-06-26
 - BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08
 - MAN04S0028 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF ANTROZOUS PALLIDUS SPECIMEN RECORDS FROM MANIS. INCLUDES RECORDS FROM MVZ, CAS, KU, UWBM, UMNH, LACM, MSB, FMNH, TTU, MSU. 2004-12-09



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 66655	EO Index: 66798
Key Quad: Hedges (3211487)	Element Code: AMACC10010
Occurrence Number: 317	Occurrence Last Updated: 2007-03-12

Scientific Name: <i>Antrozous pallidus</i>	Common Name: pallid bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	
CNDDB Element Ranks:	Other Lists:
Global: G5	BLM_S-Sensitive
State: S3	CDFW_SSC-Species of Special Concern
	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.	Micro Habitat: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.
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Last Date Observed: 2006-06-05	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-05	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
MINES IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
SHAFT & ADIT OMR #13313 & 13316 AND DECLINE OMR #13320.

Ecological:
NIGHT ROOST FOR ANTROZOUS PALLIDUS.

Threats:
General:
6 INDIVIDUALS OBSERVED NIGHT ROOSTING, INCLUDING 1 WITH A PUP ATTACHED, OBSERVED 5 JUN 2006.

PLSS: T14S, R20E, Sec. 36, W (S)	Accuracy: non-specific area	Area (acres): 156
UTM: Zone-11 N3642270 E703327	Latitude/Longitude: 32.89976 / -114.82608	Elevation (feet): 780

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO06R0002	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26366	EO Index: 4093
Key Quad: Ogilby (3211477)	Element Code: AMACD02011
Occurrence Number: 3	Occurrence Last Updated: 1995-02-08

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1993-07-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-07-03	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MINE, IN JACKSON GULCH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
MINE SITE IS FENCED. MASTIFF BAT HEARD FLYING OVERHEAD.

PLSS: T15S, R21E (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3635161 E707853	Latitude/Longitude: 32.83483 / -114.77933	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
BRO93F0023 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-07-03



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 26334	EO Index: 4095
Key Quad: Hedges (3211487)	Element Code: AMACD02011
Occurrence Number: 4	Occurrence Last Updated: 1999-02-03

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G5T4	WBWG_H-High Priority
State: S3S4	

General Habitat:	Micro Habitat:
MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.

Last Date Observed: 1993-06-28	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-06-28	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
 QUEEN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
 SITE: LARGE INCLINE ENTRANCE WITH A SHAFT TO THE SOUTHWEST.

Ecological:
 HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
General:
 TWO MASTIFF BATS HEARD FLYING OVERHEAD.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640600 E703890	Latitude/Longitude: 32.88460 / -114.82044	Elevation (feet): 720

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
 BRO93F0024 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-06-28



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26365	EO Index: 4094	
Key Quad: Hedges (3211487)	Element Code: AMACD02011	
Occurrence Number: 5	Occurrence Last Updated: 1995-02-08	

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1993-12-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-12-11	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
CROWN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
MASTIFF BATS WERE HEARD FLYING OVER THE SITE.

PLSS: T15S, R20E, Sec. 12 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3639579 E704305	Latitude/Longitude: 32.87532 / -114.81623	Elevation (feet): 680

County Summary: Imperial	Quad Summary: Ogilby (3211477), Hedges (3211487)
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Sources:
BRO93F0025 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-12-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68739	EO Index: 69217
Key Quad: Hedges (3211487)	Element Code: AMACD02011
Occurrence Number: 199	Occurrence Last Updated: 2007-03-28

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1997-06-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1997-06-11	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, VICINITY OF INDIAN WASH.

Detailed Location:
MAPPED ACCORDING TO T-R-S DATA PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "CHEMGOLD IMPERIAL PROJECT SITE."

Ecological:
Threats:

General:
INDIVIDUAL(S) DETECTED ACOUSTICALLY (2 AUDIBLE PASSES OVER THE PROPERTY) ON 11 JUN 1997.

PLSS: T13S, R21E, Sec. 32 (S)	Accuracy: non-specific area	Area (acres): 4,252
UTM: Zone-11 N3652207 E706316	Latitude/Longitude: 32.98877 / -114.79191	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487), Quartz Peak (3311417)
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Sources:
BRO97R0001 BROWN, P.E. (BROWN-BERRY BIOLOGICAL CONSULTING) - REGARDING: BAT SURVEY OF THE CHEMGOLD IMPERIAL PROJECT SITE. 1997-07-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68739	EO Index: 69218
Key Quad: Hedges (3211487)	Element Code: AMACD04010
Occurrence Number: 38	Occurrence Last Updated: 2007-03-28

Scientific Name: <i>Nyctinomops femorosaccus</i>	Common Name: pocketed free-tailed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G4	WBWG_M-Medium Priority
State: S3	

General Habitat: VARIETY OF ARID AREAS IN SOUTHERN CALIFORNIA; PINE-JUNIPER WOODLANDS, DESERT SCRUB, PALM OASIS, DESERT WASH, DESERT RIPARIAN, ETC.	Micro Habitat: ROCKY AREAS WITH HIGH CLIFFS.
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Last Date Observed: 1997-06-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1997-06-11	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, VICINITY OF INDIAN WASH.

Detailed Location:
MAPPED ACCORDING TO T-R-S DATA PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "CHEMGOLD IMPERIAL PROJECT SITE."

Ecological:
Threats:

General:
INDIVIDUAL(S) DETECTED ACOUSTICALLY ON 3 OCCASIONS ON 11 JUN 1997.

PLSS: T13S, R21E, Sec. 32 (S)	Accuracy: non-specific area	Area (acres): 4,252
UTM: Zone-11 N3652207 E706316	Latitude/Longitude: 32.98877 / -114.79191	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487), Quartz Peak (3311417)
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Sources:
BRO97R0001 BROWN, P.E. (BROWN-BERRY BIOLOGICAL CONSULTING) - REGARDING: BAT SURVEY OF THE CHEMGOLD IMPERIAL PROJECT SITE. 1997-07-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 72878
Key Quad: Clyde (3211488)
Occurrence Number: 150

EO Index: 73765
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-29

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status:
Federal: Threatened
State: Threatened
CNDDB Element Ranks:
Global: G3
State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27
Last Survey Date: 2005-04-27
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Good
Trend: Unknown

Location:

ALONG PIPELINE & WALKER WAY NORTH & SOUTH OF INDIAN WASH, 3.0 - 4.5 MI NW OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED TO PROVIDED COORDINATES AND MAPS. SE SEC 20, W SEC 28, NE SEC 33, SW SEC 34, AND NW SEC 3.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, PIPELINE CONSTRUCTION, & DEVELOPMENT.

General:

3-4 APR 2001: 8 TORTOISES, 2 CARCASSES, 1 SCUTE, 8 BURROWS (1 OLD, 1 ABANDONED), & 7 SCAT SITES (2 OLD). 21 MAY-10 JUN 2002: 5 TORTOISES (1 IN BURROW, ALL HEALTHY). 18-27 APR 2005: 5 TORTOISES, 27 BURROWS, 6 PALLET BURROWS, & 8 SCAT SITES.

PLSS: T14S, R20E, Sec. 28 (S)

Accuracy: specific area

Area (acres): 230

UTM: Zone-11 N3643986 E698390

Latitude/Longitude: 32.91613 / -114.87847

Elevation (feet): 550

County Summary:

Imperial

Quad Summary:

Hedges (3211487), Clyde (3211488)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

GER02F0002	GERMAN, E. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-29
GOE02F0008	GOETTEE, P. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-06-07
GOE02F0009	GOETTEE, P. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-30
GOE02F0012	GOETTEE, R. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-06-10
GRA02F0003	GRANT, C. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-21
MAL01F0004	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0005	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0006	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0007	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0008	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0011	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0012	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0013	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0168	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0171	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0172	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0173	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0174	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0175	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0176	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0177	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0178	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0179	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0195	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0201	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0209	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0210	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0211	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
TET05R0001	TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 72990

EO Index: 73903

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 168

Occurrence Last Updated: 2008-11-24

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-01-23

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-01-23

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

WEST SIDE OF INDIAN PASS RD, 2.22 MI NE OF THE INTERSECTION OF HWY S34 & INDIAN PASS RD.

Detailed Location:

Ecological:

DESERT PAVEMENT WITH NUMEROUS SMALL WASHES DOMINATED BY IRONWOOD. SURROUNDING AREA IS USED FOR ORVS, RECREATION AND HUNTING.

Threats:

ORVS.

General:

1 JUVENILE (6" LONG) OBSERVED AT BURROW SITE ON 23 JAN 2005.

PLSS: T14S, R20E, Sec. 11 (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3648684 E702075

Latitude/Longitude: 32.95780 / -114.83806

Elevation (feet): 685

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

STE05F0004 STEWARD, D. (U.S. BUREAU OF LAND MANAGEMENT-EL CENTRO) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2005-01-23



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 73129

EO Index: 74060

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 219

Occurrence Last Updated: 2011-11-28

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-04-27

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ABOUT 0.7 MI W OF HEDGES ON EAST SIDE OF OGILBY RD, AND ABOUT 1.2 MI E OF GOLD ROCK RANCH.

Detailed Location:

SE QUARTER OF SEC 3, SW QUARTER OF SEC 2, AND NW QUARTER OF SEC 11. MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCLUDED BURROBRUSH, BIG GALLETIA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDED ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

10 INCH FEMALE AND 210 MM MALE (BOTH IN A BURROWS), 2 ACTIVE BURROWS, AND 3 FRESH SCAT SITES OBSERVED ON 4 APR 2001. 2 BURROWS AND 2 SCAT SITES OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 03, SE (S)

Accuracy: specific area

Area (acres): 29

UTM: Zone-11 N3640253 E701613

Latitude/Longitude: 32.88189 / -114.84484

Elevation (feet): 550

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

- MAL01F0002 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0003 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0181 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0182 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0183 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0184 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 73130

EO Index: 74061

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 220

Occurrence Last Updated: 2011-10-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

INDIAN WASH, 0.25 MI SSW OF WHERE HWY 34 CROSSES THE WASH, NNW OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT WITH A MIX OF CREOSOTE AND AMBROSIA DUMOSA NEAR POWER LINES AND A ROAD.

Threats:

POTENTIAL THREATS INCLUDE ORV AND ROAD TRAFFIC.

General:

10" FEMALE TORTOISE, MALE CARCASS (LESS THAN 5 YEARS DEAD), 3 SCATS, AND A BURROW OBSERVED ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 22 (S)

Accuracy: specific area

Area (acres): 15

UTM: Zone-11 N3645181 E700920

Latitude/Longitude: 32.92644 / -114.85117

Elevation (feet): 615

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

MAL01F0009 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06

MAL01F0192 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06

MAL01F0194 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 73131

EO Index: 74062

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 221

Occurrence Last Updated: 2011-10-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.9 MILE NE OF HWY 34 AT INDIAN PASS RD, NNW OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

NEAR CENTER OF SEC 15. MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE ROAD TRAFFIC AND OFF-HIGHWAY VEHICLES.

General:

1 TORTOISE (8-9" LONG) IN BURROW AND 6 OTHER BURROWS (AT LEAST 2 ACTIVE) OBSERVED ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 15 (S)

Accuracy: specific area

Area (acres): 22

UTM: Zone-11 N3647577 E700243

Latitude/Longitude: 32.94817 / -114.85788

Elevation (feet): 630

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MAL01F0010	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0188	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0189	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0190	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0191	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	82148	EO Index:	83131
Key Quad:	Ogilby (3211477)	Element Code:	ARAAF01012
Occurrence Number:	294	Occurrence Last Updated:	2011-04-04

Scientific Name:	<i>Gopherus agassizii</i>	Common Name:	desert tortoise
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: Threatened	Other Lists:	IUCN_VU-Vulnerable
CNDDB Element Ranks:	Global: G3		
	State: S2S3		

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed:	1988-03-19	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1988-03-19	Occurrence Rank:	Unknown
Owner/Manager:	BLM, PVT-EVERGLADE LLC	Trend:	Unknown
Presence:	Presumed Extant		

Location:

AMERICAN GIRL WASH NEAR OBREGON, IN THE CARGO MUCHACHO MOUNTAINS, ABOUT 9 MI NW OF ARAZ JUNCTION.

Detailed Location:

MAPPED TO PROVIDED MAP.

Ecological:

HABITAT CONSISTED OF A LOW VALLEY BETWEEN SEVERAL BARREN LOW HILLS. PALLET WAS OBSERVED UNDER A LARGE FRANSERIA SHRUB.

Threats:

POSSIBLY THREATENED BY EARTH MOVING ACTIVITIES FROM MINING OPERATIONS.

General:

1 ADULT MALE TORTOISE (>25 YEARS OLD, 258 MM MCL) OBS WALKING NEAR PALLET BURROW 20 MAR 1988. 8 OF 13 TRANSECTS IN GENERAL AREA FOUND BURROWS OR PALLET BURROWS & LARGE AMOUNTS OF TORTOISE SCAT WAS FOUND AT THE AMERICAN BOY MINE TUNNEL.

PLSS: T15S, R21E, Sec. 17 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3637866 E707119	Latitude/Longitude: 32.85935 / -114.78655	Elevation (feet): 660

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:

MED88R0001 MEDICA, P. - SURVEY OF THE SOUTHWESTERN PORTION OF THE CARGO MUCHACHO MOUNTAINS FOR THE DESERT TORTOISE IN THE VICINITY OF THE AMERICAN GIRL MINE. 1988-03-20



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 82786

EO Index: 83784

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 467

Occurrence Last Updated: 2011-07-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.9 MI WSW OF LA COLORADO MINE, 2 MI NW OF HEDGES, NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 17.5 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN DESERT WASH WOODLAND WITH A MIX OF IRONWOOD AND PALO VERDE NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:

2 BURROWS WITH 4 OLD SCATS OBSERVED 6 APR 2001.

PLSS: T14S, R20E, Sec. 35, NW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3643007 E701447

Latitude/Longitude: 32.90674 / -114.84601

Elevation (feet): 620

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MAL01F0193 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 82788

EO Index: 83785

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 468

Occurrence Last Updated: 2011-07-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

6 MI NNW OF HEDGES, JUST NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 21 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:

A 9" LONG MALE CARCASS RECENTLY KILLED OBSERVED WITH BURROW AND PALLETS BURROWS, AND ANOTHER ACTIVE BURROW OBSERVED SEPARATELY, BOTH ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 10, NW (S)

Accuracy: specific area

Area (acres): 8

UTM: Zone-11 N3649143 E699938

Latitude/Longitude: 32.96234 / -114.86080

Elevation (feet): 700

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

MAL01F0185 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06

MAL01F0186 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 82790	EO Index: 83786	
Key Quad: Hedges (3211487)	Element Code: ARAAF01012	
Occurrence Number: 469	Occurrence Last Updated: 2011-07-21	

Scientific Name: <i>Gopherus agassizii</i>	Common Name: desert tortoise
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: Threatened	Other Lists: IUCN_VU-Vulnerable
CNDDB Element Ranks:	
Global: G3	
State: S2S3	

General Habitat: MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	Micro Habitat: REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.
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Last Date Observed: 2001-04-06	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-04-06	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
5.5 MI NNW OF HEDGES, JUST NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 20.5 MI NW OF YUMA.

Detailed Location:
MAPPED TO PROVIDED COORDINATES FOR BURROW WITH SCAT.

Ecological:
HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:
POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:
BURROW WITH SCAT OBSERVED ON 6 APR 2001. OLD SCAT ALSO FOUND NEARBY TO THE NNW ON SAME DATE.

PLSS: T14S, R20E, Sec. 15, N (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3648110 E700475	Latitude/Longitude: 32.95293 / -114.85529	Elevation (feet): 650

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

MAL01F0187	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0199	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 84033
Key Quad: Ogilby (3211477)
Occurrence Number: 876

EO Index: 85069
Element Code: ARAAF01012
Occurrence Last Updated: 2011-10-20

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status:
Federal: Threatened
State: Threatened
CNDDB Element Ranks:
Global: G3
State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-04-27

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

1 MI SSW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 15 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

3 TORTOISE BURROWS OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 14, SW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3637487 E702200

Latitude/Longitude: 32.85686 / -114.83917

Elevation (feet): 470

County Summary:

Quad Summary:

Imperial

Ogilby (3211477)

Sources:

TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 84034
Key Quad: Ogilby (3211477)
Occurrence Number: 877

EO Index: 85070
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status:
Federal: Threatened
State: Threatened
CNDDB Element Ranks:
Global: G3
State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27
Last Survey Date: 2005-04-27
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Good
Trend: Unknown

Location:

1 MI SSW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 15 MI NW OF YUMA.

Detailed Location:

MAPPED TO CARCASS COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

4 PIECES OF SCAT OBSERVED 4 APR 2001. TORTOISE CARCASS OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 14, NW (S)
UTM: Zone-11 N3638296 E702226

Accuracy: 80 meters
Latitude/Longitude: 32.86414 / -114.83872

Area (acres): 0
Elevation (feet): 490

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:

MAL01F0247 MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 84035	EO Index: 85071
Key Quad: Hedges (3211487)	Element Code: ARAAF01012
Occurrence Number: 878	Occurrence Last Updated: 2011-11-21

Scientific Name: <i>Gopherus agassizii</i>	Common Name: desert tortoise
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: Threatened	Other Lists: IUCN_VU-Vulnerable
CNDDB Element Ranks:	
Global: G3	
State: S2S3	

General Habitat:	Micro Habitat:
MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-04	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-04-04	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.5 MI WNW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 17 MI NW OF YUMA.

Detailed Location:
MAPPED TO PROVIDED COORDINATES.

Ecological:
HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT.

Threats:
POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:
CARCASS OBSERVED 4 APR 2001.

PLSS: T15S, R20E, Sec. 03, NE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3640982 E701289	Latitude/Longitude: 32.88853 / -114.84813	Elevation (feet): 540

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
MAL01F0180 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 84137
Key Quad: Ogilby (3211477)
Occurrence Number: 906

EO Index: 85165
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-04

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened
 State: Threatened
CNDDDB Element Ranks: **Global:** G3
 State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-04
Last Survey Date: 2001-04-04
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 2 MI N OF OGILBY, 3.5 MI ESE OF CACTUS, W OF CARGO MUCHACHO MTNS.

Detailed Location:
 MAPPED TO PROVIDED COORDINATES.

Ecological:
 HABITAT CONSISTED OF CREOSOTE SCRUB WITH AMBROSIA.

Threats:
 POTENTIAL THREATS INCLUDED ORV USE.

General:
 FRESH SCAT OBSERVED 4 APR 2001.

PLSS: T15S, R20E, Sec. 23, NW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3636478 E702069	Latitude/Longitude: 32.84778 / -114.84078	Elevation (feet): 450

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
 MAL01F0246 MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06562
Key Quad: Ogilby (3211477)
Occurrence Number: 32

EO Index: 14018
Element Code: ARACF12040
Occurrence Last Updated: 2003-01-17

Scientific Name: *Phrynosoma mcallii*

Common Name: flat-tailed horned lizard

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G3
 State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_NT-Near Threatened

General Habitat:

RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.

Micro Habitat:

CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed: 2002-06-09
Last Survey Date: 2002-06-09
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Excellent
Trend: Unknown

Location:
 ABOUT 0.8 MILE SE OF I-8 AT OGILBY ROAD AND 4 MI S OF OGILBY.

Detailed Location:
 1979: LOCATION GIVEN ONLY AS SECTION 24. 2002: SPECIFIC LOCATION GIVEN ON OBSERVATION ALONG PIPELINE.

Ecological:
 CREOSOTE SCRUB, SANDY GRAVEL.

Threats:
 OHV TRAFFIC AND PIPELINE CONSTRUCTION.

General:
 1 LIZARD AND 3 SCATS OBSERVED ON 26 APR 1979, LOCATION GIVEN ONLY AS SECTION 24. 1 LIVE ADULT FOUND IN PIPELINE TRENCH AND MOVED 100 YDS WEST OF RIGHT-OF-WAY ON 9 JUN 2002.

PLSS: T16S, R20E, Sec. 24, SW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3626132 E703835	Latitude/Longitude: 32.75420 / -114.82421	Elevation (feet): 240

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

HAS02F0004	HASHAGEN, K. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR PHRYNOSOMA MCALLII 2002-06-09
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	23027	EO Index:	14019
Key Quad:	Ogilby (3211477)	Element Code:	ARACF12040
Occurrence Number:	33	Occurrence Last Updated:	2015-09-03

Scientific Name:	<i>Phrynosoma mcallii</i>	Common Name:	flat-tailed horned lizard
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDB Element Ranks:	Global: G3 State: S2	Other Lists:	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened

General Habitat:	Micro Habitat:
RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed:	2013-04-28	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2013-04-28	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
INTERSECTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD, PILOT KNOB MESA, EAST OF ALGODONES DUNES.

Detailed Location:
MAPPED TO INCLUDE 1966 LOCALITY, "3.9 MI S OGILBY," 1968 LOCALITY, "OGILBY RD NEAR US HWY 80" (NOW I-8), AND COORDINATES GIVEN FOR 2013 DETECTION. 1979 DETECTION LOCATION REPORTED ONLY AS SECTION 23 ALSO ATTRIBUTED HERE.

Ecological:
DUNE HABITAT.

Threats:

General:
1 COLLECTED 14 MAY 1966. 1 COLLECTED 8 SEP 1968. ONE OBSERVED 26 APR 1979. 1 OBSERVED ON 28 APR 2013.

PLSS: T16S, R20E, Sec. 23, NW (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3626458 E702395	Latitude/Longitude: 32.75740 / -114.83950	Elevation (feet): 220

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

HER16D0001	HERP, INC. - HERPETOLOGICAL EDUCATION AND RESEARCH PROJECT (HERP) DATABASE. FORMERLY A PROJECT OF THE NORTH AMERICAN FIELD HERPING ASSOCIATION 2016-10-11
MCD66S0001	MCDIARMID, R. - MCDIARMID #66-17 -1 LACM #8862 COLLECTED FROM 3.9 MI S OGILBY 1966-05-14
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25
WIE68S0001	WIEWANDT, T. - UAZ #28045 COLLECTED FROM OGILBY RD NEAR US HWY 80 1968-09-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06544	EO Index: 14020
Key Quad: Ogilby (3211477)	Element Code: ARACF12040
Occurrence Number: 34	Occurrence Last Updated: 2012-06-20

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S2	IUCN_NT-Near Threatened

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 1979-04-27	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1980-06-20	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
PILOT KNOB MESA, ABOUT 1 MILE NW OF I-8 AT OGILBY RD (S34) AND 2 MILES SSW OF OGILBY.

Detailed Location:
SDNHM LOCALITIES: "OGILBY; 2 MILES SW OF." MAPPED TO PROVIDED TRS FROM 1979 "SECTION SEARCHES." VICINITY OF PLOT #7 IN 1980 SURVEY, ABOUT 1 MILE NW OF S34 AT I-8.

Ecological:
1980: CREOSOTE AND BURSAGE WERE DOMINANT PERENNIALS, IRONWOOD PRESENT. POGONOMYRMEX NESTS FOUND AT SITE. FRINGE-TOED LIZARDS ALSO OCCUR IN THIS AREA & HAVE SCAT INDISTINGUISHABLE FROM THAT OF FTHL; MORE RESEARCH IN THIS AREA IS NEEDED.

Threats:
General:
SDNHM #56513 & 56514 COLLECTED BY M. MCCOID ON 25 MAY 1975. 1 OBSERVED IN SEC 10, 1 OBSERVED IN SEC 15 ON 27 APR 1979. 0 FTHL AND 6 SCATS FOUND 17-20 JUN 1980.

PLSS: T16S, R20E, Sec. 10 (S)	Accuracy: non-specific area	Area (acres): 1,296
UTM: Zone-11 N3628756 E701038	Latitude/Longitude: 32.77837 / -114.85348	Elevation (feet): 240

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

ALT80R0001	ALTMAN, E. ET AL. - AN EVALUATION OF THE RELATIVE ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD (PHRYNOSOMA MCALLII) IN 10 AREAS IN SOUTHEASTERN CALIFORNIA 1980-09-XX
HER09S0001	HERPNET - PRINTOUT OF PHRYNOSOMA MCALLII RECORDS FROM MULTIPLE MUSEUMS EXCEPT MVZ. 2009-12-09
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06564
Key Quad: Ogilby (3211477)
Occurrence Number: 39

EO Index: 22417
Element Code: ARACF12040
Occurrence Last Updated: 2012-09-26

Scientific Name: *Phrynosoma mcallii*

Common Name: flat-tailed horned lizard

Listing Status:
Federal: None
State: None
CNDDDB Element Ranks:
Global: G3
State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_NT-Near Threatened

General Habitat:

RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.

Micro Habitat:

CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed: 1947-07-26
Last Survey Date: 1947-07-26
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 ALONG I-8, ABOUT 2 MILES W OF FELICITY AND 5 MILES SSE OF OGILBY.

Detailed Location:
 COULD NOT LOCATE PROVIDED LOCALITY "SPRINGERS." MAPPED TO TRS GIVEN IN BLM'S COMPILATION OF MUSEUM SPECIMENS (BLM80S0020).

Ecological:

Threats:
General:
 SDMNH SPECIMEN #38521 COLLECTED BY CHARLES SHAW ON 26 JUL 1947.

PLSS: T16S, R21E, Sec. 19, NW (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3626155 E705959	Latitude/Longitude: 32.75401 / -114.80155	Elevation (feet): 253

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Ogilby (3211477)
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Sources:
 BLM80S0020 BUREAU OF LAND MANAGEMENT - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR PHRYNOSOMA MCALLII, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN" 1980-XX-XX
 HER09S0001 HERPNET - PRINTOUT OF PHRYNOSOMA MCALLII RECORDS FROM MULTIPLE MUSEUMS EXCEPT MVZ. 2009-12-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 39690	EO Index: 34692	
Key Quad: Grays Well NE (3211467)	Element Code: ARACF12040	
Occurrence Number: 79	Occurrence Last Updated: 1998-09-10	

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S2	IUCN_NT-Near Threatened

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 1984-05-17	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1984-05-17	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
WHERE HIGHWAY 8 CROSSES THE ALL AMERICAN CANAL (BM 196), SE TOWARD CALIFORNIA-MEXICO BORDER, 5 MILES NE OF GRAYS WELL.

Detailed Location:
SCAT FOUND ON NORTH SIDE OF CANAL FROM HIGHWAY CROSSING TO 3 MILES SOUTHEAST OF HIGHWAY 8.

Ecological:
MOST OF THE HABITAT ALONG THE PROPOSED CANAL ROUTE COULD CONTAIN LIZARDS EXCEPT WETLAND/RIPARIAN AREA BETWEEN DROPS 3 & 4, & ALGODONES DUNES (BETWEEN SEGMENT MARKERS 7 TO 11).

Threats:
General:
ABUNDANCE INDEX OF LIZARDS WAS DETERMINED PER SECTION BY COUNTING SCAT.

PLSS: T16S, R20E, Sec. 52 (S)	Accuracy: non-specific area	Area (acres): 193
UTM: Zone-11 N3624577 E701707	Latitude/Longitude: 32.74057 / -114.84725	Elevation (feet): 200

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Ogilby (3211477)
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Sources:
ROR84R0001 RORABAUGH, J. (U.S. BUREAU OF RECLAMATION) - AN EVALUATION OF FLAT-TAILED HORNED LIZARD (PHRYNOSOMA MCALLII) HABITAT QUALITY ALONG 40.9 KM (25.4 MI) OF THE PROPOSED ALL-AMERICAN CANAL ROUTE IN IMPERIAL COUNTY, CALIFORNIA 1984-06-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 49935
Key Quad: Ogilby (3211477)
Occurrence Number: 89

EO Index: 49935
Element Code: ARACF12040
Occurrence Last Updated: 2015-09-03

Scientific Name: *Phrynosoma mcallii*

Common Name: flat-tailed horned lizard

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G3
 State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_NT-Near Threatened

General Habitat:

RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.

Micro Habitat:

CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed: 2002-05-29
Last Survey Date: 2002-05-29
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Excellent
Trend: Unknown

Location:
 0.5 MILE ESE OF THE JUNCTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD, EAST SIDE OF ALGODONES DUNES.

Detailed Location:
Ecological:
 CREOSOTE SCRUB, SANDY GRAVEL, FLAT.

Threats:
 PIPELINE CONSTRUCTION, SURROUNDING USE IS DESERT RECREATION.

General:
 ONE ADULT KILLED BY CONSTRUCTION EQUIPMENT 29 MAY 2002.

PLSS: T16S, R20E, Sec. 23, NE (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3626463 E703430	Latitude/Longitude: 32.75725 / -114.82845	Elevation (feet): 220

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
 NIE02F0002 NIEUWEHUIZEN, I. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR PHRYNOSOMA MCALLII 2002-05-29



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 06540	EO Index: 22762
Key Quad: Ogilby (3211477)	Element Code: IICOL30060
Occurrence Number: 5	Occurrence Last Updated: 1989-08-11

Scientific Name: <i>Anomala hardyorum</i>	Common Name: Hardy's dune beetle
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1	
State: S1	

General Habitat: KNOWN ONLY FROM CREOSOTE BUSH SCRUB HABITAT IN THE VICINITY OF THE ALGODONES DUNES, IMPERIAL COUNTY.	Micro Habitat: ADULTS ACTIVE AT DUSK, GENERALLY ON NORTH OR EAST SLIP FACES OF DUNES.
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Last Date Observed: 1979-04-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1979-04-12	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNE SYSTEM, 4 MI SSW OF OGILBY.

Detailed Location:

Ecological:

NO KNOWN HOST PLANT. ADULTS HAVE BEEN SIFTED FROM SAND BENEATH A WIDE VARIETY OF PLANTS. NOTHING IS KNOWN OF THE IMMATURE STAGES. ADULTS ARE ACTIVE AT DUSK, GENERALLY ON NORTH- OR EAST-FACING SLIP FACES.

Threats:

General:

PLSS: T16S, R20E, Sec. 22, NW (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3626372 E700427	Latitude/Longitude: 32.75699 / -114.86051	Elevation (feet): 205

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:
HAR79R0001 HARDY, A. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - AN INVENTORY OF SELECTED COLEOPTERA FROM THE ALGODONES DUNES. REPORT TO BLM, CONTRACT CA-060-CT 8-68. 1979-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118239
Key Quad:	Glamis (3211581)	Element Code:	IICOL33020
Occurrence Number:	1	Occurrence Last Updated:	2020-05-01

Scientific Name:	<i>Cyclocephala wandae</i>	Common Name:	Wandae dune beetle
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1G2 State: S1S2	Other Lists:	

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1972-09-XX	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1972-09-XX	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

SPECIMENS WERE COLLECTED USING BLACKLIGHTS IN 1971 AND 1972.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

AND79R0001	ANDREWS, F. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - THE COLEOPTEROUS FAUNA OF SELECTED CALIFORNIA SAND DUNES. REPORT TO BLM. 1979-03-15
HAR74A0001	HARDY, A. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - A NEW SPECIES OF CYCLOCEPHALA LATREILLE FROM CALIFORNIA SAND DUNES (COLEOPTERA: SCARABAEIDAE). THE PAN-PACIFIC ENTOMOLOGIST 50: 160-161. 1974-04-XX
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
WAS72S0001	WASBAUER, M. & A. HARDY - CAS #11941 & USNM #11065335 & CMN #17140 COLLECTED 3 MI NW OF GLAMIS 1972-09-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06540
Key Quad: Ogilby (3211477)
Occurrence Number: 15

EO Index: 22697
Element Code: IICOL37020
Occurrence Last Updated: 1989-08-11

Scientific Name: *Pseudocotalpa andrewsi*

Common Name: Andrew's dune scarab beetle

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G1
 State: S1

Rare Plant Rank:
Other Lists:

General Habitat:

ENDEMIC TO THE CREOSOTE BUSH SCRUB HABITAT OF ALGODONES DUNES, NW OF GLAMIS, IMPERIAL COUNTY; 100-400 FT ELEVATION.

Micro Habitat:

INHABITS BOTH SURFACE AND SUB-SURFACE OF SAND, UTILIZING THE WET SAND INTERFACE AS PROTECTION FROM THE HEAT OF THE DAY.

Last Date Observed: 1979-04-12

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1979-04-12

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ALGODONES DUNE SYSTEM, 4 MI SSW OF OGILBY.

Detailed Location:

ENDEMIC TO THE ALGODONES DUNES.

Ecological:

FLIGHT ACTIVITY 10-30 MINUTES AFTER SUNSET, DIGGING IN 1-2 MINUTES AFTER LANDING, DESCENDING TO THE WET SAND INTERFACE (USUALLY 5-8 CM, UP TO 30 CM). HOST PLANT UNKNOWN, ALTHOUGH MOST ADULTS SWARM AROUND CREOSOTE.

Threats:

OHVS. THE DUNES SOUTH OF HWY 78 ARE THE IMPERIAL SAND DUNES OHVA.

General:

ADULTS SWARM FROM APRIL TO MID-MAY.

PLSS: T16S, R20E, Sec. 22 (S)

Accuracy: 1/5 mile

Area (acres): 0

UTM: Zone-11 N3626372 E700427

Latitude/Longitude: 32.75699 / -114.86051

Elevation (feet): 200

County Summary:

Quad Summary:

Imperial

Ogilby (3211477)

Sources:

HAR79R0001 HARDY, A. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - AN INVENTORY OF SELECTED COLEOPTERA FROM THE ALGODONES DUNES. REPORT TO BLM, CONTRACT CA-060-CT 8-68. 1979-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 118258
Key Quad: Glamis (3211581)	Element Code: IIDIP07040
Occurrence Number: 1	Occurrence Last Updated: 2020-05-01

Scientific Name: <i>Efferia macroxipha</i>	Common Name: Glamis robberfly
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 1988-09-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1988-09-12	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

SPECIMENS WERE COLLECTED IN THIS VICINITY IN 1986, 1987, AND 1988.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

FOR88S0001	FORBES, G. - NMSU #48873, 48903, 48905, 48906, 48908-48911, 48914, 48915, 48919, 48922, 48925, 48928, 48929, 48931 & 48933 COLLECTED FROM ALGODONES DUNES, RT 78, 0.8 MI W GECKO RD 1988-09-12
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
KIM17A0001	KIMSEY, L. ET AL. - INSECT BIODIVERSITY OF THE ALGODONES DUNES OF CALIFORNIA 2017-11-24
ROG86S0001	ROGERS, R. - CAS #16132 & NMSU #48932 COLLECTED FROM SAND DUNES, 2 MI W OF GLAMIS, HWY 78 1986-09-19
ROG87S0001	ROGERS, R. - NMSU #48916, 48918, 48926 & 48927 COLLECTED FROM GECKO CAMPGROUND RD, NEAR HWY 78 1987-09-12
ROG87S0002	ROGERS, R. - NMSU #48920 COLLECTED FROM GECKO CAMPGROUND RD, NEAR HWY 78 1987-09-21



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118240
Key Quad:	Glamis (3211581)	Element Code:	IIDIP54020
Occurrence Number:	1	Occurrence Last Updated:	2020-04-28

Scientific Name:	<i>Apiocera warneri</i>	Common Name:	Glamis sand fly
Listing Status:	Federal: None	Rare Plant Rank:	
	State: None	Other Lists:	
CNDDDB Element Ranks:	Global: G1G2		
	State: S1S2		

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1982-09-15	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1982-09-15	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

THIS SPECIES IS ONLY KNOWN FROM THE TYPE COLLECTIONS. THESE WERE MADE 1.5 MILES WEST OF GLAMIS AND 4 MILES NORTH OF GLAMIS ON 15 SEP 1982.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:	Quad Summary:
Imperial	Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

CAZ85A0002	CAZIER, M. - NEW SPECIES AND NOTES ON FLIES BELONGING TO THE GENUS APIOCERA (DIPTERA, APIOCERIDAE). AMERICAN MUSEUM NOVITATES 2837: 1-28. 1985-11-14
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118355
Key Quad:	Glamis (3211581)	Element Code:	IIHYM01130
Occurrence Number:	1	Occurrence Last Updated:	2020-05-06

Scientific Name:	<i>Perdita algodones</i>	Common Name:	Algodones perdita
Listing Status:	Federal: None	Rare Plant Rank:	
	State: None	Other Lists:	
CNDDDB Element Ranks:	Global: G1G2		
	State: S1S2		

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1972-04-09	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1972-04-09	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

COLLECTIONS WERE MADE FROM THIS VICINITY IN 1965, 1968, AND 1972.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

HAR72S0005	HARDY, A. - UCRC #165955 COLLECTED 3 MILES NW OF GLAMIS, KIPF ROAD, ALGODONES DUNES 1972-04-09
IRW65S0001	IRWIN, M. - UCRC #165956 COLLECTED 1 MILE WEST OF GLAMIS 1965-04-25
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFW). 2007-04-XX
RAU68S0001	RAUCH, P. - CAS #14416 COLLECTED 3.5 MILES NW OF GLAMIS 1968-04-13
TIM80A0001	TIMBERLAKE, P. - SUPPLEMENTARY STUDIES ON THE SYSTEMATICS OF THE GENUS PERDITA (HYMENOPTERA, ANDRENIDAE), PART II. UNIVERSITY OF CALIFORNIA PUBLICATIONS IN ENTOMOLOGY 85. 1980-05-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 119180
Key Quad: Glamis (3211581)	Element Code: IHHYM01140
Occurrence Number: 1	Occurrence Last Updated: 2020-09-28

Scientific Name: <i>Perdita frontalis</i>	Common Name: Imperial Perdita
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: <input type="checkbox"/>	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 2014-05-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2014-05-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:

VARIOUS COLLECTION LOCALITIES DESCRIBED AS FROM GLAMIS TO 5.7 MILES WEST OF GLAMIS. MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

MOST COLLECTIONS WERE MADE FROM FLOWERS OF TIQUILA PLICATA.

Threats:

General:

COLLECTIONS WERE MADE IN 1960, 1962, 2012, 2013, AND 2014.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

- DIC60S0004 DICKSON, R. - CAS #14531 COLLECTED FROM SAND DUNES, 5.7 MILES WEST OF GLAMIS, IMPERIAL CO, CA, ON ERIOGONUM DESERTICOLA 1960-07-25
- DIC60S0005 DICKSON, R. - UCRC #173923 COLLECTED E BRAWLEY, ON ERIOGONUM DESERTICOLA 1960-06-28
- DIC60S0006 DICKSON, R. - UCRC #173924 COLLECTED FROM SAND DUNES S OF BRAWLEY, ON COLDENIA PLICATA 1960-07-11
- KIM07U0001 KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
- POR16A0001 PORTMAN, Z. ET AL. - TAXONOMIC REVISION OF PERDITA SUBGENUS HETEROPERDITA TIMBERLAKE (HYMENOPTERA: ANDREDIDAE), WITH DESCRIPTIONS OF TWO ANT-LIKE MALES. ZOOTAXA 4214(1): 1-97. 2016-XX-XX
- TIM68A0001 TIMBERLAKE, P. - A REVISIONAL STUDY OF THE BEES OF THE GENUS PERDITA F. SMITH, WITH SPECIAL REFERENCE TO THE FAUNA OF THE PACIFIC COAST. PART VII. UNIVERSITY OF CA PUBLICATIONS IN ENTOMOLOGY 49. 1968-XX-XX
- YAN20U0001 YANEGA, D. (UNIVERSITY OF CALIFORNIA, RIVERSIDE) - EMAIL REGARDING PERDITA FRONTALIS COLLECTION LOCALITES 2020-09-25



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	119019
Key Quad:	Glamis (3211581)	Element Code:	IIHYM01840
Occurrence Number:	2	Occurrence Last Updated:	2020-08-10

Scientific Name:	<i>Perdita stephanomeriae</i>	Common Name:	a miner bee
Listing Status:	Federal: None	Rare Plant Rank:	
	State: None	Other Lists:	
CNDDDB Element Ranks:	Global: GNR		
	State: S1S2		

General Habitat:	<input type="checkbox"/>	Micro Habitat:	<input type="checkbox"/>
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Last Date Observed:	1965-06-13	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1965-06-13	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 COLLECTION LOCALITY GIVEN ONLY AS "GLAMIS." MAPPED BY CNDDDB NON-SPECIFICALLY ACROSS THE EXTENT OF THE GLAMIS DUNES, ALSO KNOWN AS THE ALGODONES DUNES.

Ecological:
Threats:

General:
 COLLECTED ON 13 JUN 1965. SPECIMENS ORIGINALLY USED TO DESCRIBE THE SPECIES PERDITA GLAMIS, BUT THAT SPECIES WAS LATER LUMPED INTO PERDITA STEPHANOMERIAE.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:	Quad Summary:
Imperial	Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
POR17A0001	PORTMAN, Z. & T. GRISWOLD - REVIEW OF PERDITA SUBGENUS PROCOCKERELLIA TIMBERLAKE (HYMENOPTERA, ANDRENIDAE) AND THE FIRST PERDITA GYNANDROMORPH. ZOOKEYS 712: 87-111. 2017-XX-XX
TIM80A0001	TIMBERLAKE, P. - SUPPLEMENTARY STUDIES ON THE SYSTEMATICS OF THE GENUS PERDITA (HYMENOPTERA, ANDRENIDAE), PART II. UNIVERSITY OF CALIFORNIA PUBLICATIONS IN ENTOMOLOGY 85. 1980-05-XX
WAL65S0004	WALLACE, G. - UCRC #174303 & CAS #14544 COLLECTED FROM GLAMIS 1965-06-13



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118339
Key Quad:	Glamis (3211581)	Element Code:	IIHYM90010
Occurrence Number:	1	Occurrence Last Updated:	2020-05-05

Scientific Name:	<i>Microbembex elegans</i>	Common Name:	Algodones elegant sand wasp
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDB Element Ranks:	Global: G1G2 State: S1S2	Other Lists:	

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY	<input type="checkbox"/>

Last Date Observed:	1988-10-10	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1988-10-10	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:
 FOUND ONLY AROUND THE BASES OF SHRUBS WHERE DETRITUS COLLECTS ON ACTIVE SLIP FACES OF THE DUNES.

Threats:
General:
 THIS SPECIES IS ONLY KNOWN FROM THE TYPE COLLECTIONS. THESE WERE MADE FROM GLAMIS DUNES, 1 MILE WEST OF GLAMIS IN SEP 1987 AND OCT 1988, AND ALSO 4 MILES SOUTH OF OGILBY IN OCT 1988.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:	Quad Summary:
Imperial	Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

GRI96A0001	GRISWOLD, T. (UTAH STATE UNIVERSITY) - A NEW MICROBEMBEX ENDEMIC TO THE ALGODONES DUNES, CALIFORNIA (HYMENOPTERA: SPHECIDAE). PAN-PACIFIC ENTOMOLOGIST 72(3): 142-144. 1996-XX-XX
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 118271
Key Quad: Glamis (3211581)	Element Code: IHHYMB010
Occurrence Number: 1	Occurrence Last Updated: 2020-05-04

Scientific Name: <i>Euparagia unidentata</i>	Common Name: Algodones euparagia
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: <input type="checkbox"/>	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 2008-06-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2008-06-03	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

COLLECTIONS WERE MADE FROM THIS VICINITY IN 1960 AND 2008.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

ANONDS0367	ANONYMOUS - AMNH #178751 COLLECTED FROM GECKO RD S OF ALGODONES DUNES WILDERNESS AREA XXXX-XX-XX
CAR09A0001	CARPENTER, J. & L. KIMSEY - THE GENUS EUPARAGIA CRESSON (HYMENOPTERA: VESPIDAE; EUPARAGIINAE). AMERICAN MUSEUM NOVITATES 3643: 1-11. 2009-03-31
DIC60S0001	DICKSON, R. - UCRC #71283 & 71284 COLLECTED FROM ERIOGONUM DESERTICOLA AT SAND DUNES EAST OF BRAWLEY 1960-06-13
DIC60S0002	DICKSON, R. - UCRC #71288 COLLECTED FROM ERIOGONUM DESERTICOLA 7 MILES WEST OF GLAMIS 1960-07-25
DIC60S0003	DICKSON, R. - UCRC #71285, 71286, 71287 & 71289 COLLECTED FROM COLDENIA PPLICATA 2 MILES WEST OF GLAMIS 1960-07-25
KIM17A0001	KIMSEY, L. ET AL. - INSECT BIODIVERSITY OF THE ALGODONES DUNES OF CALIFORNIA 2017-11-24



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 77872	EO Index: 6544
Key Quad: Glamis (3211581)	Element Code: PDAST6T012
Occurrence Number: 1	Occurrence Last Updated: 2014-05-28

Scientific Name: <i>Palafoxia arida</i> var. <i>gigantea</i>	Common Name: giant spanish-needle
Listing Status: Federal: None	Rare Plant Rank: 1B.3
State: None	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks: Global: G5T3?	SB_CalBG/RSABG-California/Rancho Santa Ana
State: S2	Botanic Garden

General Habitat: DESERT DUNES.	Micro Habitat: ACTIVE AND STABLE DUNE AREAS; ASSOCIATED WITH AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ETC. 20-95 M.
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Last Date Observed: 2013-04-20	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2013-04-20	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES.

Detailed Location:
SCATTERED THROUGHOUT THE DUNES FROM SOUTHERN PACIFIC RR TRACKS WEST TO THE COACHELLA CANAL AND FROM MAMMOTH WASH SOUTH TO THE CA/MEXICO BORDER. MAPPED BY CNDDDB USING MULTIPLE MAP SOURCES.

Ecological:
SAND DUNES WITHIN DESERT PSAMMOPHYTIC SCRUB (STABILIZED AND PARTIALLY STABILIZED DESERT DUNES). ASSOCIATES INCLUDE SEVERAL RARE PLANTS: AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ERIOGONUM DESERTICOLA, PILOSTYLES THURBERI, ETC.

Threats:
ORV USE.

General:
>3,000 PLANTS SEEN ALONG ALL AMERICAN CANAL IN 1993. 34,649 IN 1998; 1,458 IN 1999; 13,933 IN 2000. 25 PLANTS ALONG HWY 78 JUST E OF GECKO RD IN 2009. 80+ PLANTS N OF HWY 78 ~1 MI NW OF OSBORNE LOOKOUT IN 2013. INCL FRMR EOS 2-49, 51, 52.

PLSS: T14S, R18E, Sec. 51 (S)	Accuracy: specific area	Area (acres): 118,017
UTM: Zone-11 N3644086 E681072	Latitude/Longitude: 32.92004 / -115.06355	Elevation (feet):

County Summary: Imperial, Mexico	Quad Summary: Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)
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Sources:

ALE41S0030	ALEXANDER, A. & L. KELLOGG - ALEXANDER #1936 UC #669289 POM #115609, GH #427281 1941-03-14
AND09S0005	ANDRE, J. & T. LA DOUX - ANDRE #9871 UCR #211316, RSA #760079, GMDRC #2967 (CITED IN AND10D0001) 2009-02-26
AND10D0001	ANDRE, J. - EXCEL TABLE OF MULTIPLE PLANT COLLECTIONS 2010-01-18
ANO69S0003	ANONYMOUS - ANONYMOUS #11 UCR #16704 1969-05-24
BAR67S0001	BARR, R. - BARR #67-128 UA (AS CITED IN WAR87R0001) 1967-04-16
BEL13S0009	BELL, D. ET AL. - BELL #4823 RSA #806857 2013-04-20
BEL13U0002	BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
BEN33S0011	BENSON, L. - BENSON #4223 RSA #431136 1933-04-01



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



BLM00R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: RESULTS OF 1998 MONITORING AND COMPARISON WITH THE DATA FROM WESTECS 1977 MONITORING STUDY 2000-11-XX
BLM01R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, AND 2000 2001-06-XX
BLM77F0001	BLM-BUREAU OF LAND MANAGEMENT - FIELD SURVEY FORM FOR PALAFOXIA ARIDA VAR. GIGANTEA 1977-10-13
BLM78F0001	SEARS, W. - BLM (S-II) FIELD SURVEY FORM FOR PALAFOXIA ARIDA VAR. GIGANTEA 1978-XX-XX
BLM86R0002	BLM-BUREAU OF LAND MANAGEMENT - PROPOSED 1985 PLAN AMENDMENTS VOL. 2 1986-01-XX
BOW70S0001	BOWERS, D. - BOWERS #1608 RSA #786954 1970-12-29
BOW81S0001	BOWERS, J. - BOWERS #2076 UA (AS CITED IN WAR87R0001) 1981-03-14
BOW83S0003	BOWERS, J. & S. MCLAUGHLIN - BOWERS #2785 UCR #46271 1983-11-12
BRO80S0003	BROWNELL, K. - BROWNELL #206 UCSB #36654 1980-05-17
CHM00R0001	CH2M HILL - IMPERIAL IRRIGATION DISTRICT (IID)/SAN DIEGO COUNTY WATER AUTHORITY (SDCWA) WATER CONSERVATION AND TRANSFER PROJECT EIR/EIS, SCOPING SUMMARY REPORT 2000-03-10
DAV79S0003	DAVIDSON, C. ET AL. - DAVIDSON #7742 HSU #82914 POM #363734 1979-04-28
DAV79S0004	DAVIDSON, C. ET AL. - DAVIDSON #7792 POM #363735 1979-04-28
DEF33S0002	DE FOREST, H. & J. REMPEL - DE FOREST #17695 RSA #363761 1933-04-10
DUN35S0005	DUNKLE, M. - DUNKLE #4586 POM #363736 1935-04-18
FER38S0002	FERRIS, R. & R. ROSSBACH - FERRIS #9588 UC #604962 POM #19546, GH #427279 1938-05-17
FUL59S0002	FULLER, T. - FULLER #3273 CDA #8432 1959-10-07
GIL28S0004	GILMAN, M. - GILMAN SN POM #145269 1928-04-XX
GOR80S0003	GORDON, P. - GORDON #630 UCSB #37387 1980-05-17
GRA78S0002	GRANGER, S. - GRANGER SN RSA #650937 1978-04-03
GUI08S0005	GUILLIAMS, C. & J. MARSHALL - GUILLIAMS #635 SDSU #18373 & #18392 2008-04-23
GUS83S0012	GUSTAFSON, R. & KEELEY - GUSTAFSON #2569 POM #363733 1983-05-06
HIG74S0001	HIGGINS, L. - HIGGINS #8507 ASU (AS CITED IN WAR87R0001) 1974-04-12
HIT66S0008	HITCHCOCK, C. - HITCHCOCK #24287 DAV #134877 1966-03-19
HOW64S0005	HOWE, D. - HOWE #3756 SD #60969 SDSU #369 1964-04-11
HOW80S0004	HOWE, D. - HOWE SN SD #128762 1980-04-14
HUN80S0001	HUNKINS, C. - HUNKINS #80030903, SEINET #2053908, DES #27249, DBG (CITED IN WAR87R0001) 1980-03-09
JEP27S0017	JEPSON, W. - JEPSON #11722 JEPS #34765 1927-04-15
JON31S0014	JONES, M. - JONES #28599 POM #188054 UC #479265 1931-09-24
JOR82S0002	JORGENSEN, J. - JORGENSEN #305 UCSB #39124 1982-03-24
KEL37S0001	KELLER, A. - KELLER SN RSA #603891 SD #17611 1937-05-31
KEL37S0002	KELLER, A. - KELLER SN SD #17612 1937-05-31
KEL41S0001	KELLOGG, L. ET AL. - KELLOGG ET AL. #1936 UA #189037 (AS CITED IN WAR87R0001) 1941-03-14
LAT77S0004	LATTING, J. - LATTING SN UC #1746487 UCR #115382, SEINET #238517, UTC #230538, DAV #134884 1977-12-11
MAC97S0005	MACKAY, P. - MACKAY #130 VVC #648 1997-03-01
MCG71S0001	MCGEHEE, R. - MCGEHEE #352 SJSU #11689 1971-02-13
MIN64S0002	MINNICH, J. - MINNICH #64-3-25-14 UCR 1964-03-25
MUN32S0027	MUNZ, P. & C. HITCHCOCK - MUNZ #12131 UC #495107 1932-04-05
NEL30S0001	NELSON, A. - NELSON #11161 DS #231258 1930-02-27
NEL36A0001	NELSON, A. - ROCKY MOUNTAIN HERBARIUM STUDIES IV. AMERICAN JOURNAL OF BOTANY 23: 265-271. 1936-XX-XX
NIE77U0021	NIEHAUS, T. - CNPS STATUS REPORT 1977-XX-XX
PEI27S0010	PEIRSON, F. - PEIRSON #7198 RSA #92214 SD #87849 1927-04-15
PIT98S0003	PITZER, B. - PITZER #3477 SD #144029 UCR #102678 1998-02-02
POR03S0027	PORTER, J. - PORTER #13491 RSA #767601 2003-03-04



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



RAV58S0027 RAVEN, P. - RAVEN #12910 JEPS #30466 RSA #127758 1958-05-06
REC79R0001 U.S. BUREAU OF RECLAMATION - REPORT ON RARE PLANT POPULATIONS ALONG THE ALL AMERICAN CANAL 1979-XX-XX
REI96S0007 REINA, A. & T. VAN DEVENDER - REINA #220 RSA #592920, UCR #97014. SEINET #1110597, ASU, SEINET #891496, ASU #324968 1996-04-27
RIC79S0004 RICH, B. - RICH #79004 RSA #291588 1979-04-21
ROM79R0001 ROMSPERT, A. & J. BURK - ALGODONES DUNES SENSITIVE PLANT PROJECT - C.S.U. FULLERTON PREPARED FOR BLM 1979-XX-XX
ROS63S0001 ROSSBACH, G. - ROSSBACH #5239 UC #1351650 1963-07-03
SEA78S0005 SEARS - SEARS #764 UCR #33542 1978-03-15
SIM65S0001 SIMPSON, J. - SIMPSON SN SD #103941 1965-05-13
STE90S0003 STEWART, J. - STEWART #649 UCR #89809 1990-03-14
STO96S0002 STONE, B. & J. DICE - STONE SN SD #138925 1996-04-29
SWA11S0038 SWANSON, A. - SWANSON #194 RSA #776107 2011-03-09
THO64S0037 THORNE, R. & RUTHERFORD - THORNE #33611 RSA #167678, GH #427280 1964-04-11
THO78S0051 THORNE, R. - THORNE #52150 RSA #336258 1978-05-30
THO84S0002 THORNE, R. ET AL. - THORNE #58265 RSA #331168 1984-04-27
TUR62S0001 TURNER, B. - TURNER #4757 SD #108087 1962-04-19
VAN05S0003 VAN DAM, A. - VAN DAM SN UCR #165596 2005-04-19
VAS64S0002 VASEK, F. - VASEK #640411-2 UCR #3820, UCSB #38383 1964-04-11
VAS64S0006 VASEK, F. - VASEK #640411-03 UCR #3819 1964-04-11
VER64S0005 VERITY, D. ET AL. - VERITY SN SFV #4269A 1964-02-15
WAR87R0001 WARREN, P. & A. LAURENZI - RARE PLANTS SURVEY OF THE YUMA DISTRICT. 1987-08-XX
WES77R0003 WESTEC SERVICES, INC. - SURVEY OF SENSITIVE PLANTS OF THE ALGODONES DUNES - PREPARED FOR BLM. 1977-08-XX
WIE35S0023 WIEGAND, K. & M. WIEGAND - WIEGAND #2578 GH #427282 1935-XX-XX
WIL05U0001 WILLOUGHBY, J. - EMAIL TO R. BITTMAN REGARDING DATA ON ALGODONES DUNES PLANTS 2005-11-30
WIL64S0002 WILSON, K. - WILSON #1327 SFV #4068 1964-04-11
WOL31S0036 WOLF, C. - WOLF #1888 RSA #2149 1931-03-14
WOLNDS0001 WOLF - WOLF #1888 HERBARIUM UNKNOWN XXXX-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 92503	EO Index: 93647
Key Quad: Ogilby (3211477)	Element Code: PDAST6T012
Occurrence Number: 56	Occurrence Last Updated: 2014-05-28

Scientific Name: <i>Palafoxia arida</i> var. <i>gigantea</i>	Common Name: giant spanish-needle
Listing Status:	Rare Plant Rank: 1B.3
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDB Element Ranks:	Botanic Garden
Global: G5T3?	
State: S2	

General Habitat:
DESERT DUNES.

Micro Habitat:
ACTIVE AND STABLE DUNE AREAS; ASSOCIATED WITH AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ETC. 20-95 M.

Last Date Observed: 2002-03-02	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-03-02	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
IMPERIAL DUNES RECREATION AREA (ALGODONES DUNES), 0.5 MILE WSW OF OGILBY, WEST OF COUNTY ROAD S34.

Detailed Location:
MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2002 PORTER ET AL. COLLECTION; DATUM UNKNOWN; MAPPED TO ENCOMPASS NAD27 AND NAD83.

Ecological:
SHALLOW DUNES AND SANDY SOILS OF BRAIDED WASH.

Threats:

General:
ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2002 PORTER ET AL. COLLECTION.

PLSS: T15S, R20E, Sec. 34, E (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3632803 E701564	Latitude/Longitude: 32.81475 / -114.84698	Elevation (feet): 310

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
POR02S0002 PORTER, J. ET AL. - PORTER #13401 RSA #767464, ARIZ #412699 2002-03-02



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 35287	EO Index: 5532
Key Quad: Ogilby (3211477)	Element Code: PDEUP080L0
Occurrence Number: 1	Occurrence Last Updated: 1996-08-27

Scientific Name: <i>Ditaxis claryana</i>	Common Name: glandular ditaxis
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists:
State: None	
CNDDB Element Ranks:	
Global: G3G4	
State: S2	

General Habitat: MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.	Micro Habitat: IN DRY WASHES AND ON ROCKY HILLSIDES. SANDY SOILS. 15-505 M.
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Last Date Observed: 1978-03-15	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1978-03-15	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 1.5 MILES NORTHEAST OF OGILBY, SOUTHWEST OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
OBSERVED AT T15S R20E SECTIONS 24 AND 25.

Ecological:
GROWING IN LOWER FAN OF DRY WASH ON GRAVELLY/SANDY SOILS WITHIN CREOSOTE SCRUB.

Threats:
General:

50-100 PLANTS OBSERVED OVER LESS THAN 100 ACRES IN 1978.

PLSS: T15S, R20E, Sec. 24 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3635326 E704098	Latitude/Longitude: 32.83702 / -114.81938	Elevation (feet): 550

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
SEA78F0003 SEARS, W. - FIELD SURVEY FORM FOR DITAXIS CLARYANA 1978-03-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 76081
Key Quad: Ogilby (3211477)
Occurrence Number: 38

EO Index: 77074
Element Code: PDEUP0H140
Occurrence Last Updated: 2014-09-17

Scientific Name: *Croton wigginsii*

Common Name: Wiggins' croton

Listing Status: **Federal:** None
 State: Rare
CNDDDB Element Ranks: **Global:** G2G3
 State: S2

Rare Plant Rank: 2B.2
Other Lists: BLM_S-Sensitive
 SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 DESERT DUNES, SONORAN DESERT SCRUB.

Micro Habitat:
 ON SAND DUNES AND IN SANDY ARROYOS. 0-155 M.

Last Date Observed: 2002-07-15
Last Survey Date: 2002-07-15
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 SE END OF THE ALGODONES DUNES; NEAR THE JUNCTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD.

Detailed Location:
 MAPPED BY CNDDDB AS BEST GUESS AROUND SECTION 23 ACCORDING TO TRS INFORMATION ON A 1978 SEARS FIELD SURVEY FORM.

Ecological:
 SPARSE DESERT SCRUB ON LOOSE SAND. ASSOCIATES INCLUDE AMMOBROMA SONORAE, PETALONYX THURBERI, TIQUILIA PLICATA, PALAFOXIA ARIDA GIGANTEA, OENOTHERA.

Threats:
General:
 SITE BASED ON A VAGUE 1978 SEARS SURVEY FORM. COLLECTIONS FROM "DIRT TRACK HEADING E 3.3 MI FROM GRAYS WELL RD EXIT OFF I-8", "4.1 MI S OF OGILBY AT OGILBY RD, EXIT I-10", AND "OGILBY RD, E SIDE ALGODONES DUNES, S OF I-8" ATTRIBUTED HERE.

PLSS: T16S, R20E, Sec. 23 (S)	Accuracy: non-specific area	Area (acres): 649
UTM: Zone-11 N3626368 E702733	Latitude/Longitude: 32.75652 / -114.83591	Elevation (feet): 200

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Ogilby (3211477)
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- Sources:**
- DAV79S0009 DAVIDSON, C. - DAVIDSON #7794 RSA #480697 1979-04-28
 - SEA78F0001 SEARS, W. - FIELD SURVEY FORM FOR CROTON WIGGINSII 1978-03-15
 - SEA78S0010 SEARS - SEARS #765 SEINET #3107109, FLD #4500 1978-XX-XX
 - VAN02S0001 VAN DEVENDER, T. ET AL. - VAN DEVENDER #2002-473 SEINET #281192 & #286839, USON #12101 2002-07-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 28142	EO Index: 17711	
Key Quad: Ogilby (3211477)	Element Code: PDFAB0F491	
Occurrence Number: 1	Occurrence Last Updated: 2011-10-18	

Scientific Name: <i>Astragalus insularis var. harwoodii</i>	Common Name: Harwood's milk-vetch
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5T4	
State: S2	

General Habitat: DESERT DUNES, MOJAVEAN DESERT SCRUB.	Micro Habitat: OPEN SANDY FLATS AND SANDY OR STONY DESERT WASHES; MOSTLY IN CREOSOTE BUSH SCRUB. -45-700 M.
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Last Date Observed: 2008-03-20	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2008-03-20	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
VICINITY OF THE INTERSECTION OF OLD HIGHWAY 80 (NOW I-8) AND OGILBY ROAD (HWY S34), SE END OF PILOT KNOB MESA.

Detailed Location:
MAPPED BY CNDDDB AS A NON-SPECIFIC POLYGON ALONG OLIGBY RD (HWY S34) TO ENCOMPASS 3 COLLECTIONS FROM "0.5 MI N OF INTERSECTION", "100 M N OF JUNCTION, W SIDE OF ROAD" AND "SE OF INTERSECTION, 30 M E OF OGILBY ROAD".

Ecological:
SPARSE CREOSOTE BUSH SCRUB WITH ASCLEPIAS SP, STEPHANOMERIA SP, AMBROSIA DUMOSA, AND ABRONIA VILLOSA. IN SUN ON DRY, SANDY FLATS.

Threats:
General:
SITE BASED ON MULTIPLE COLLECTIONS FROM THIS AREA; LAST COLLECTED BY GUILLIAMS & MARSHALL IN 2008. NEED MAP DETAIL FOR THIS SITE.

PLSS: T16S, R20E, Sec. 14, S (S)	Accuracy: non-specific area	Area (acres): 69
UTM: Zone-11 N3627208 E702645	Latitude/Longitude: 32.76411 / -114.83667	Elevation (feet): 240

County Summary:	Quad Summary:
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Imperial	Ogilby (3211477)
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Sources:

ARM83S0003	ARMSTRONG, W. - ARMSTRONG SN SD #115067 1983-05-10
ATW70S0001	ATWOOD, N. - ATWOOD #2335 NY #1258227 1970-04-02
BAL58S0002	BALLS, E. & P. EVERETT - BALLS #22890 UC #1080347, RSA #124371 1958-03-20
GUI08S0004	GUILLIAMS, C. & J. MARSHALL - GUILLIAMS #631 SDSU #18741 2008-04-23
MCL85S0002	MCLAUGHLIN, S. & J. BOWERS - MCLAUGHLIN #2946 ARIZ #257606 1985-03-10
MCL87A0001	MCLAUGHLIN, S. ET AL. - VASCULAR PLANTS OF EASTERN IMPERIAL COUNTY, CA. MADRONO VOL. 34, NO. 4, PP. 359-378, 1987. 1987-XX-XX
THO64S0038	THORNE, R. & R. RUTHERFORD - THORNE #33564 RSA #754257 & #800188 1964-04-10



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 77752	EO Index: 78652
Key Quad: Grays Well NE (3211467)	Element Code: PDFAB0F491
Occurrence Number: 43	Occurrence Last Updated: 2009-12-29

Scientific Name: <i>Astragalus insularis var. harwoodii</i>	Common Name: Harwood's milk-vetch
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5T4	
State: S2	

General Habitat: DESERT DUNES, MOJAVEAN DESERT SCRUB.	Micro Habitat: OPEN SANDY FLATS AND SANDY OR STONY DESERT WASHES; MOSTLY IN CREOSOTE BUSH SCRUB. -45-700 M.
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Last Date Observed: 1985-03-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-03-10	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
I-8 AT JUNCTION WITH SIDEWINDER RD, SE END OF PILOT KNOB MESA.

Detailed Location:
MAPPED BY CNDDDB AS BEST GUESS AT THE JUNCTION OF I-8 AND SIDEWINDER RD.

Ecological:
SANDY SOIL WITH LARREA AND CROTON CALIFORNICUS.

Threats:
General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1985 MCLAUGHLIN & BOWERS COLLECTION, MENTIONED AS "UNCOMMON" IN 1985.

PLSS: T16S, R21E, Sec. 21 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3625454 E710370	Latitude/Longitude: 32.74686 / -114.75465	Elevation (feet): 250

County Summary: Imperial	Quad Summary: Yuma West (3211466), Grays Well NE (3211467), Araz (3211476), Ogilby (3211477)
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Sources:

MCL85S0001	MCLAUGHLIN, S. & J. BOWERS - MCLAUGHLIN #2942 ARIZ #257607 1985-03-10
MCL87A0001	MCLAUGHLIN, S. ET AL. - VASCULAR PLANTS OF EASTERN IMPERIAL COUNTY, CA. MADRONO VOL. 34, NO. 4, PP. 359-378, 1987. 1987-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 36276
Key Quad: Ogilby (3211477)
Occurrence Number: 1

EO Index: 31273
Element Code: PDFAB0N040
Occurrence Last Updated: 2014-08-25

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1990-XX-XX
Last Survey Date: 1990-XX-XX
Owner/Manager: BLM?
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 VICINITY OF AMERICAN GIRL MINE, CARGO MUCHACHO MOUNTAINS, EAST OF OGILBY.

Detailed Location:
 E POLYGON: EXACT LOCATION OF POPULATION(S) NOT PROVIDED; PROJECT SITES ARE WITHIN LARGE PORTIONS OF T15S R21E SECTIONS 17, 18, 19 AND THE SW 1/4 OF SEC 20. W POLYGON: EXACT LOCATION UNKNOWN; MAPPED BASED ON TRS FROM 1978 SEARS COLLECTION.

Ecological:
 GROWING IN SHALLOW, STABLE HEAD WASHES AT THE BASE OF THE MOUNTAINS AND ON THE SHALLOW FAN WASHES OUT ON THE ALLUVIAL FANS WHERE THE WASHES BRANCH OUT AND FLOOD WATERS LOSE VELOCITY. DESERT PAVEMENT & WASHES; SANDY SOIL; WITH LARREA.

Threats:
 MINING ACTIVITY. PLANTS REPORTEDLY RECOLONIZE DISTURBED AREAS.

General:
 W POLYGON IS BASED ON A 1978 SEARS COLLECTION FROM "1 MI N OF OGILBY, 2 MI DOWN DESERT RAT TRAILER PARK RD" WITH GIVEN TRS "T15S R20E S24 & S25" AND GIVEN ELEVATION OF 500 TO 650 FT. E POLYGON OBSERVED IN 1990. NEEDS FIELDWORK.

PLSS: T15S, R21E, Sec. 17 (S)	Accuracy: non-specific area	Area (acres): 3,278
UTM: Zone-11 N3636835 E706926	Latitude/Longitude: 32.85010 / -114.78884	Elevation (feet): 1,000

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
 NEW91U0001 NEWTON, G. - PORTION OF ENVIRONMENTAL DOCUMENT FOR AMERICAN GIRL CANYON PROJECT AND MESQUITE PROJECT. 1991-03-06
 SEA78S0009 SEARS - SEARS #776 SEINET #3107285, FLD #4678 1978-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 36283
Key Quad: Ogilby (3211477)
Occurrence Number: 2

EO Index: 31280
Element Code: PDFAB0N040
Occurrence Last Updated: 1997-07-30

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1979-04-29
Last Survey Date: 1979-04-29
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 ALONG RAILROAD ACCESS ROAD 2.2 MILES SOUTHEAST OF CACTUS, PILOT KNOB MESA.

Detailed Location:
 NEAR RAILROAD BRIDGE 714-12.

Ecological:
 ROCKY WASH CHANNEL. CREOSOTE BUSH SCRUB WITH BEBBIA, OLNEYA, AND CERCIDIUM.

Threats:

General:
 ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1979 COLLECTION BY DAVIDSON ET AL.

PLSS: T15S, R20E, Sec. 21 (S)	Accuracy: non-specific area	Area (acres): 85
UTM: Zone-11 N3635628 E699398	Latitude/Longitude: 32.84061 / -114.86950	Elevation (feet): 390

County Summary: Imperial	Quad Summary: Ogilby (3211477), Cactus (3211478)
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Sources:
 DAV79S0001 DAVIDSON, C. ET AL. - DAVIDSON #7803 HSC #66468, POM #347335 1979-04-29



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36278	EO Index: 31275
Key Quad: Ogilby (3211477)	Element Code: PDFAB0N040
Occurrence Number: 3	Occurrence Last Updated: 2014-08-25

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status: Federal: None	Rare Plant Rank: 2B.3
State: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
CNDDB Element Ranks: Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1958-03-20	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2013-03-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
3.5 MILES NORTH OF OGILBY ON ROAD TO BLYTHE.

Detailed Location:
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BASED ON 1958 BALLS COLLECTION WITH GIVEN ELEV OF 499 FT. A 1937 WIGGINS COLLECTION FROM "3.5 MI N OF OGILBY ON ROAD TO PALO VERDE, ELEV 440 FT" IS ATTRIBUTED HERE; ELEV DOES NOT MATCH LOCALITY.

Ecological:
GRAVELLY SLOPES AND RUNNEL-INTERFLUVE SYSTEM. PONDEROSA PINE COMMUNITY IN CLAY SOIL, SOUTH ASPECT.

Threats:
General:
MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1958 BALLS COLLECTION. A 1940 WOGLUM COLLECTION FROM "4 MILES NORTH OF OGILBY" IS ALSO ATTRIBUTED TO THIS SITE. BELL SURVEYED THIS AREA IN 2013, BUT NO PLANTS WERE FOUND.

PLSS: T15S, R20E, Sec. 11, SW (S)	Accuracy: non-specific area	Area (acres): 31
UTM: Zone-11 N3638658 E702214	Latitude/Longitude: 32.86740 / -114.83877	Elevation (feet): 499

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BAL58S0015	BALLS, E. & P. EVERETT - BALLS #22923 SD #48547, RSA #124333 1958-03-20
BEL13U0002	BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
WIG37S0002	WIGGINS, I. - WIGGINS #8557 POM #265282, DS #278459, SEINET #902098, ARIZ #137709 1937-02-17
WOG40S0014	WOGLUM, R. - WOGLUM #2460 RSA #28737 & 630291, SEINET #2011354, SJNM 1940-03-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36282	EO Index: 31279
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 5	Occurrence Last Updated: 2010-07-09

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status: Federal: None	Rare Plant Rank: 2B.3
State: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
CNDDDB Element Ranks: Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1987-01-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1987-01-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
IN WASHES ALONG THE HYDUKE MINE ROAD NORTH OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
ALONG ROAD ON THE SOUTH SIDE OF INDIAN WASH. MAPPED AS LARGE AREA EXTENDING FROM T14S R20E S 1/2 SEC 13 AT THE W END TO T14S R21E N 1/2 SEC 10 (PROJECTED) AT THE E END. APPARENTLY RESTRICTED TO "BLUE DOTTED LINE" WASHES ON MAP PROVIDED.

Ecological:
LOW TOTAL COVER (<5%) IN SMALL WASHES WITH LARREA TRIDENTATA, FOQUIERIA SPLENDENS, FRANSERIA DUMOSA, ACACIA GREGGII, AND KRAMERIA PARVIFLORA. LARGER WASHES SUPPORT OLNEYA TESOTA-CERCIDIUM FLORIDUM WOODLAND.

Threats:
General:
FEWER THAN 5 PLANTS PER ACRE OBSERVED BY HOLLAND AND DAINS IN 1987.

PLSS: T14S, R21E, Sec. 17 (S)	Accuracy: non-specific area	Area (acres): 757
UTM: Zone-11 N3647996 E706948	Latitude/Longitude: 32.95070 / -114.78611	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Picacho Peak (3211486), Hedges (3211487)
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Sources:
HOL87F0070 HOLLAND, R. & V. DAINS - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 1987-01-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36284

EO Index: 31281

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 6

Occurrence Last Updated: 2008-09-05

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
Botanic Garden

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1932-04-05

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1932-04-05

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

NEAR TUMCO IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS IN THE VICINITY OF THE TUMCO MINE NEAR THE HEAD OF TUMCO WASH.

Ecological:

IN SMALL GULLIES.

Threats:

General:

SITE KNOWN FROM A 1932 COLLECTION BY MUNZ & HITCHCOCK. NEEDS FIELDWORK.

PLSS: T15S, R20E, Sec. 12 (S)

Accuracy: 3/5 mile

Area (acres): 0

UTM: Zone-11 N3640164 E704289

Latitude/Longitude: 32.88060 / -114.81628

Elevation (feet):

County Summary:

Imperial

Quad Summary:

Ogilby (3211477), Hedges (3211487)

Sources:

MUN32S0020 MUNZ, P. & C. HITCHCOCK - MUNZ #12134 POM #184095, DS #221047 & #690509 1932-04-05



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62018	EO Index: 62054
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 13	Occurrence Last Updated: 2005-07-19

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1991-04-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
IN AND ADJACENT TO INDIAN WASH; 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, AND 7 TO 8 MILES NORTH OF HEDGES.

Detailed Location:
AROUND 800 FOOT ELEVATION.

Ecological:
DESERT PAVEMENT/DESERT WASH. FOUND WITH FOUQUIERIA SPLENDENS, LARREA TRIDENTATA, AMBROSIA DUMOSA, OLNEYA TESOTA, ENCELIA FARINOSA, ET AL.

Threats:

General:
1991 LARUE COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.

PLSS: T14S, R21E, Sec. 05 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3651157 E707383	Latitude/Longitude: 32.97910 / -114.78074	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
LAR91S0001 LARUE, E. - LARUE #91-32 UCR #67337, RSA #528113, CAS #850219, SEINET #902096, ARIZ #294039 1991-04-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62020

EO Index: 62056

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 14

Occurrence Last Updated: 2005-07-19

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
Botanic Garden

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2001-03-26

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-03-26

Occurrence Rank: Fair

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

1.4 AIR MILES NNW OF GOLD ROCK RANCH.

Detailed Location:

IN THE NW 1/4 OF THE SW 1/4 OF SECTION 34.

Ecological:

STRINGER WASH, FOUND WITH OCOTILLO, CREOSOTE BUSH, AND WHITE BURSAGE.

Threats:

THREATENED BY NORTH BAJA PIPELINE PROJECT, LITTER, AND ORV USE.

General:

10 PLANTS SEEN IN 2001.

PLSS: T14S, R20E, Sec. 34, SW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3642412 E699726

Latitude/Longitude: 32.90170 / -114.86453

Elevation (feet): 545

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62021

EO Index: 62057

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 15

Occurrence Last Updated: 2005-07-19

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
Botanic Garden

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2001-03-26

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-03-26

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ABOUT 0.7 AIR MILE NNE OF GOLD ROCK RANCH, NORTHWEST OF HEDGES.

Detailed Location:

Ecological:

FOUND WITH OCOTILLO, CREOSOTE BUSH, CHOLLA, WHITE BURSAGE, IRONWOOD, CAT CLAW, AND BOX THORN.

Threats:

THREATENED BY NORTH BAJA PIPELINE PROJECT.

General:

84 PLANTS TOTAL (FOR 8 SMALL COLONIES) OBSERVED IN 2001.

PLSS: T15S, R20E, Sec. 03, NW (S)

Accuracy: specific area

Area (acres): 39

UTM: Zone-11 N3641423 E700606

Latitude/Longitude: 32.89262 / -114.85533

Elevation (feet): 540

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62023

EO Index: 62059

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 16

Occurrence Last Updated: 2014-08-22

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2013-03-10

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2013-03-10

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.7 AIR MILE NORTHWEST OF HEDGES, 0.2 TO 0.6 MILE NORTH OF TUMCO WASH. NW SLOPES OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

IN THE SE 1/4 OF SECTION 3 AND THE SW 1/4 OF SECTION 2. 1958 BACIGALUPI COLLECTION FROM 4.8 MI N OF OGILBY, ON NW SLOPES OF CARGO MUCHACHO MTNS AND 1941 ALEXANDER & KELLOGG COLLECITON FROM 5 MI N OF OGILBY ALSO ATTRIBUTED TO THIS SITE.

Ecological:

OPEN ROCKY AREAS WITH SMALL DRAINAGES AND MICROPHYLL WOODLAND. FOUND WITH CREOSOTE BUSH, CHOLLA, WHITE BURSAGE, OCOTILLO, IRONWOOD, GALLET, LUPINE, AND WHITE RATANY.

Threats:

THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER, DUMPING, AND ORV USE MAY ALSO THREATEN.

General:

91 PLANTS TOTAL OBSERVED IN 2001. GREATER THAN 30 PLANTS OBSERVED IN THE SE CORNER OF POLYGON IN 2013.

PLSS: T15S, R20E, Sec. 02, SW (S)

Accuracy: specific area

Area (acres): 72

UTM: Zone-11 N3640268 E701986

Latitude/Longitude: 32.88196 / -114.84084

Elevation (feet): 560

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

- ALE41S0025 ALEXANDER, A. & L. KELLOGG - ALEXANDER #1894 POM #211622, A #366147, DS #333554, SEINET #902097, ARIZ #34444 1941-03-04
- AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26
- AND13S0001 ANDRE, J. - ANDRE #24103 RSA #806146 2013-03-04
- BAC58S0014 BACIGALUPI, R. & P. HUTCHINSON - BACIGALUPI #6123 JEPS #22127 1958-02-17
- BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62024	EO Index: 62060
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 17	Occurrence Last Updated: 2005-07-19

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.3 MILES NORTHWEST OF HEDGES.

Detailed Location:
SOUTH EDGE OF SW 1/4 OF SW 1/4 OF SECTION 35.

Ecological:
FOUND WITH WHITE BURSAGE, OCOTILLO, AND CREOSOTE BUSH.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
2 PLANTS SEEN IN 2001.

PLSS: T14S, R20E, Sec. 35, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3641836 E701852	Latitude/Longitude: 32.89612 / -114.84194	Elevation (feet): 605

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62025	EO Index: 62061
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 18	Occurrence Last Updated: 2008-09-05

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.8 AIR MILES NORTHEAST OF GOLD ROCK RANCH, NORTHWEST OF HEDGES.

Detailed Location:
NE 1/4 OF NW 1/4 OF SW 1/4 OF SECTION 35.

Ecological:
FOUND WITH CREOSOTE BUSH, WHITE BURSAGE, PALO VERDE, IRONWOOD.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
5 PLANTS SEEN IN 2001. A 1932 PERISON COLLECTION FROM "6 MILES NORTH OF OGILBY" IS ALSO ATTRIBUTED TO THIS SITE.

PLSS: T14S, R20E, Sec. 35, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3642614 E701643	Latitude/Longitude: 32.90317 / -114.84399	Elevation (feet): 615

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26
PEI32S0009 PEIRSON, F. - PEIRSON #9788 RSA #86977, DS #690508 1932-03-21



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62028	EO Index: 62064
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 19	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status: Federal: None	Rare Plant Rank: 2B.3
State: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
CNDDDB Element Ranks: Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
SOUTH OF INDIAN WASH; ON WEST SIDE OF TRANSMISSION LINE, ABOUT 2.2 TO 3.3 AIR MILES NNW OF HEDGES.

Detailed Location:
EAST EDGE OF SECTION 27, THE SW 1/4 OF SW 1/4 OF SECTION 26, AND NW 1/4 OF NW 1/4 OF SECTION 35.

Ecological:
FOUND WITH CREOSOTE BUSH, OCOTILLO, WHITE BURSAGE, CHOLLA, PALO VERDE, IRONWOOD, AFRICAN MUSTARD, ENCELIA, WHITE RATANY, MEDITERRANEAN GRASS, AND BOX THORN.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
56 PLANTS TOTAL (FOR 11 COLONIES) OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 27, E (S)	Accuracy: specific area	Area (acres): 75
UTM: Zone-11 N3644485 E701088	Latitude/Longitude: 32.92013 / -114.84952	Elevation (feet):

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62030	EO Index: 62066
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 20	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
NORTH OF INDIAN WASH; ON WEST SIDE OF TRANSMISSION LINE, 5.4 AIR MILES NNW OF HEDGES.

Detailed Location:
IN THE SE 1/4 OF THE SW 1/4 OF SECTION 10.

Ecological:
FOUND WITH WHITE BURSAGE, CREOSOTE BUSH, OCOTILLO, AND ENCELIA.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
5 PLANTS OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 10, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3648284 E700188	Latitude/Longitude: 32.95455 / -114.85831	Elevation (feet): 650

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62032	EO Index: 62068
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 21	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
6.3 AIR MILES SW OF INDIAN PASS; ABOUT 2 AIR MILES NW OF INDIAN WASH, NW OF HEDGES.

Detailed Location:
NW 1/4 OF SECTION 10, AND INTO SW 1/4 OF SW 1/4 OF SECTION 3.

Ecological:
FOUND WITH WHITE BURSAGE, IRONWOOD, GALLETIA, BOX THORN, WHITE RATANY, AFRICAN MUSTARD, CREOSOTE BUSH, OCOTILLO, MEDITERRANEAN GRASS, AND ENCELIA.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
304 PLANTS TOTAL (FOR 6 COLONIES) OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 10, NW (S)	Accuracy: specific area	Area (acres): 40
UTM: Zone-11 N3649280 E699895	Latitude/Longitude: 32.96358 / -114.86123	Elevation (feet): 690

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62091	EO Index: 62127
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 30	Occurrence Last Updated: 2005-07-22

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALONG WEST SIDE OF TRANSMISSION LINE, 3.1 MILES NORTHWEST OF INDIAN WASH.

Detailed Location:
IN THE SE 1/4 OF THE NE 1/4 OF SECTION 4, AND INTO SW 1/4 OF THE NW 1/4 OF SECTION 3.

Ecological:
STRINGER WASH FOUND WITH IRONWOOD, CREOSOTE BUSH, ENCELIA, AND WHITE BURSAGE.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO BE THREATS.

General:
15 PLANTS OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 04, NE (S)	Accuracy: specific area	Area (acres): 8
UTM: Zone-11 N3650791 E699529	Latitude/Longitude: 32.97726 / -114.86482	Elevation (feet): 710

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62098
Key Quad: Ogilby (3211477)
Occurrence Number: 31

EO Index: 62134
Element Code: PDFAB0N040
Occurrence Last Updated: 2014-08-25

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1978-04-30
Last Survey Date: 2013-03-10
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 IN WASH ON ROAD S34 (OGILBY ROAD) NORTH OF I-8.

Detailed Location:
 EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG S34 NEAR AMERICAN GIRL WASH NORTH OF OGILBY.

Ecological:
 WASH WOODLAND WITH OLNEYA, CERCIDIUM FLORIDUM, KRAMERIA GRAYI, LARREA, ETC. OPEN ROCKY AREAS WITH SMALL DRAINAGES AND MICROPHYLL WOODLAND.

Threats:
General:
 1978 LATTING COLLECTION IS THE MAIN SOURCE OF INFORMATION FOR THIS SITE. BELL SURVEYED THIS AREA IN 2013, BUT NO PLANTS WERE FOUND.

PLSS: T15S, R20E, Sec. 26, W (S)	Accuracy: non-specific area	Area (acres): 112
UTM: Zone-11 N3634801 E702396	Latitude/Longitude: 32.83260 / -114.83766	Elevation (feet): 400

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

BEL13U0002	BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
LAT78S0002	LATTING, J. - LATTING SN UCR #137366 1978-04-30



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 72157
Key Quad: Ogilby (3211477)
Occurrence Number: 35

EO Index: 73122
Element Code: PDFAB0N040
Occurrence Last Updated: 2008-09-05

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1970-04-06
Last Survey Date: 1970-04-06
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 3 MILES EAST OF OGILBY, ON DIRT ROAD WEST OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:
 EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS.

Ecological:
 LOW DESERT SCRUB, SANDY SOIL.

Threats:
General:
 ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1970 COLLECTION BY NIILUS. NEEDS FIELDWORK.

PLSS: T15S, R21E, Sec. 31 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633145 E706984	Latitude/Longitude: 32.81682 / -114.78905	Elevation (feet): 360

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
 NII70S0001 NILUS, T. - NIILUS #173 RSA #658024 1970-04-06



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	72161	EO Index:	73127
Key Quad:	Hedges (3211487)	Element Code:	PDFAB0N040
Occurrence Number:	38	Occurrence Last Updated:	2014-08-27

Scientific Name:	<i>Calliandra eriophylla</i>	Common Name:	pink fairy-duster
Listing Status:	Federal: None State: None	Rare Plant Rank:	2B.3
CNDDB Element Ranks:	Global: G5 State: S3	Other Lists:	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

General Habitat:	SONORAN DESERT SCRUB.	Micro Habitat:	SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed:	2013-03-04	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2013-03-04	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
ON BLM RD 664, 0.5 MILE EAST OF OGILBY RD, CARGO MUCHACO MOUNTAINS.

Detailed Location:
MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2013 ANDRE COLLECTION, IN THE NW 1/4 OF THE SE 1/4 OF SECTION 26.

Ecological:
SPARSELY VEGETATED GRAVELLY TO ROCKY VOLCANIC HILLS AND PAVEMENTS. ASSOCIATED WITH ENCELIA FARINOSA, FOUQUIERIA, AMBROSIA DUMOSA, ERIOGONUM THOMASII, LARREA TRIDENTATA, AND FAGONIA PACHYACANTHA.

Threats:
General:
MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2013 ANDRE COLLECTION; DESCRIBED AS "OCCASIONAL". A 2001 COLLECTION BY PITZER & BALLMER FROM "VICINITY OF INDIAN WASH, 13.9 MILES SOUTH OF HIGHWAY 78 ON OGILBY RD" IS ALSO ATTRIBUTED HERE.

PLSS: T14S, R20E, Sec. 26, SE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3644031 E702274	Latitude/Longitude: 32.91583 / -114.83695	Elevation (feet): 640

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
AND13S0002 ANDRE, J. - ANDRE #24139 RSA #806150 2013-03-04
PIT01S0001 PITZER, B. & G. BALLMER - PITZER #4264 UCR #163763 2001-03-17



Occurrence Report

California Department of Fish and Wildlife

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Map Index Number: 79366	EO Index: 80349
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 42	Occurrence Last Updated: 2010-07-09

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1998-03-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1998-03-22	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
APPROXIMATELY 1 MILE EAST OF OGILBY ROAD AND SOUTH OF INDIAN PASS ROAD, NORTH END OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:
MAPPED BY CNDDDB AS BEST GUESS BASED ON COORDINATES ON COLLECTION LABEL; COORDINATES ARE FROM 1998 WITH NO DATUM SPECIFIED.

Ecological:
VOLCANIC SUBSTRATES WITH LARREA TRIDENTATA, OLNEYA TESOTA, AND FOUQUIERIA SPLENDENS.

Threats:
General:
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1998 REBMAN COLLECTION.

PLSS: T14S, R20E, Sec. 25, NW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3644635 E703112	Latitude/Longitude: 32.92112 / -114.82786	Elevation (feet): 787

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
REB98S0001 REBMAN, J. ET AL. - REBMAN #4946 UCR #112167, SD #144883, RSA #643389 1998-03-22



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 86962

EO Index: 87923

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 49

Occurrence Last Updated: 2012-10-16

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1985-03-09

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1985-03-09

Occurrence Rank: Unknown

Owner/Manager: UNKNOWN

Trend: Unknown

Presence: Presumed Extant

Location:

ENTRENCHED WASH NORTH END OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED ALONG WASH NEAR COORDINATES PROVIDED ON HERBARIUM PRINTOUT FOR 1985 MCLAUGHLIN COLLECTION. SOURCE OF COORDINATES IS UNKNOWN; COORDINATES ARE LOCATED ON A SLOPE ON THE SOUTH SIDE OF THE WASH.

Ecological:

ASSOCIATED WITH ASCLEPIAS ALBICANS.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1985 MCLAUGHLIN COLLECTION. NEEDS FIELDWORK.

PLSS: T14S, R20E, Sec. 36 (S)

Accuracy: non-specific area

Area (acres): 73

UTM: Zone-11 N3642459 E704203

Latitude/Longitude: 32.90129 / -114.81668

Elevation (feet): 800

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MCL85S0005 MCLAUGHLIN, S. & J. BOWERS - MCLAUGHLIN #2931, SEINET #902093, ARIZ #257518 1985-03-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 46437	EO Index: 46437	
Key Quad: Glamis (3211581)	Element Code: PDLNN02020	
Occurrence Number: 2	Occurrence Last Updated: 2019-01-03	

Scientific Name: <i>Pholisma sonorae</i>	Common Name: sand food
Listing Status:	Rare Plant Rank: 1B.2
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDDB Element Ranks:	Botanic Garden
Global: G2	
State: S2	

General Habitat: DESERT DUNES, SONORAN DESERT SCRUB.	Micro Habitat: LOOSE, DEEP SAND DUNES, USUALLY ON THE MORE STABLE, WINDWARD FACE. 0-125 M.
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Last Date Observed: 2018-04-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2018-04-22	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES.

Detailed Location:
MAPPED BY CNDDDB TO ENCOMPASS VARIOUS SOURCES OF MAP INFORMATION. INCLUDES FORMER EO #S 3-11, 13-25, 28-41, 43-45, 47-49, 51, 52. IN 2013, THE 4 PLANTS OBSERVED N OF HWY 78 WERE THE ONLY INDIVIDUALS SEEN OVER A LARGE AREA.

Ecological:
MOST COMMONLY FOUND IN SHELTERED STABILIZED SAND DUNES BUT IT MAY OCCUR IN LOOSE DEEP SAND ON THE WINDWARD FACES OF SAND DUNES. ROOT PARASITE ON COLDENIA PPLICATA, ERIOGONUM DESERTICOLA, AND COLDENIA PALMERI.

Threats:
ORV ACTIVITY, BORDER PATROL USE.

General:
SEEN IN 1977 THROUGHOUT DUNES. POPULATION NUMBERS FOR PARTS OF OCC: 571 IN 1994, ~486 FLOWER HEADS IN '98, 385 IN '99, 1576 IN '00, 3740 IN '01, 3317 IN '02, 78,417 IN '04, 4 IN '13, 24 IN '17, 94 IN '18.

PLSS: T14S, R18E, Sec. 57, N (S)	Accuracy: specific area	Area (acres): 78,858
UTM: Zone-11 N3640419 E682852	Latitude/Longitude: 32.88668 / -115.04526	Elevation (feet): 300

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)
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- Sources:**
- ANO36S0002 ANONYMOUS - ANONYMOUS SN SD #15582 1936-05-XX
 - AUB59S0001 AUBREY, F. - AUBREY SN UCR #16469 1959-04-25
 - BAR66S0001 BARR, R. - BARR #66-36 US ARIZ #161673 (AS CITED IN WAR87R0001) 1966-05-30
 - BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
 - BEN10I0002 BENNETT, A. - PHOTOS OF PHOLISMA SONORAE, CALPHOTOS ID #0000 0000 0510 2064-2072 2010-05-16
 - BEZ65S0001 BEZY, R. - BEZY SN UA #231779 (AS CITED IN WAR87R0001) 1965-05-28
 - BLM00R0001 BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: RESULTS OF 1998 MONITORING AND COMPARISON WITH THE DATA FROM WESTECS 1977 MONITORING STUDY 2000-11-XX
 - BLM01R0001 BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, AND 2000 2001-06-XX



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BLM04R0002	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, 2000, 2001, AND 2002 2004-10-XX
BLM04R0003	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA, RESULTS OF 2003 PILOT SAMPLING 2004-01-05
BLM05R0001	BLM-BUREAU OF LAND MANAGEMENT - 2004 MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA 2005-03-24
BLM80M0001	BUREAU OF LAND MANAGEMENT - CALIFORNIA DESERT CONSERVATION AREA - MAP OF RARE, THREATENED, AND ENDANGERED PLANT SPECIES 1980-XX-XX
BLM86R0002	BLM-BUREAU OF LAND MANAGEMENT - PROPOSED 1985 PLAN AMENDMENTS VOL. 2 1986-01-XX
BRU17F0017	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-05
BRU17F0020	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-06
BRU17F0021	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-06
BRU17F0022	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-05
BRU18F0021	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-27
BRU18F0035	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-29
BRU18F0040	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-29
BRU18F0045	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-04-22
CAR73S0005	CARLQUIST, S. & WALLACE - CARLQUIST #4365 RSA #239048, SD #90614, NY #37805, CAS #577823, MO #100679897, SEINET #10847674, CAS-BOT-BC #230596 1973-05-14
CHA08I0001	CHARTERS, M. - PHOTOS OF PHOLISMA SONORAE, CALPHOTOS ID #0000 0000 0508 0614-0620 2008-05-05
CHM00R0001	CH2M HILL - IMPERIAL IRRIGATION DISTRICT (IID)/SAN DIEGO COUNTY WATER AUTHORITY (SDCWA) WATER CONSERVATION AND TRANSFER PROJECT EIR/EIS, SCOPING SUMMARY REPORT 2000-03-10
COO36S0001	COOK, L. - COOK SN UCR #95847 SD #16026 1936-06-13
COT67S0001	COTHRUN, D. - COTHRUN SN ASU #37347 (AS CITED IN WAR87R0001) 1967-07-07
COX63S0001	COX, G. - COX SN SDSU #7874 1963-04-28
DAV79F0001	DAVIDSON, C. ET AL. - FIELD SURVEY FORM FOR ASTRAGALUS MAGDALENAE VAR. PEIRSONII & PHOLISMA SONORAE 1979-04-28
DAV79S0010	DAVIDSON, C. ET AL. - DAVIDSON #7759 RSA #446408 1979-04-28
DAV79S0011	DAVIDSON, C. ET AL. - DAVIDSON #7793 RSA #446407, HSC #82769 1979-04-28
DEF34S0001	DEFOREST, H. - DE FOREST #18614 RSA #446409 1934-03-29
DICNDU0001	DICE, J. - LOCATION OF PHOLISMA SONORAE IN COMMENTS OF SKI95F0013. XXXX-XX-XX
DIR03S0001	DIRIDONI, G. - DIRIDONI SN SD #243934 2003-01-21
ENG79S0001	ENGARD, R. - ENGARD #1132 DBG (AS CITED IN WAR87R0001) 1979-04-14
FIL18F0005	FILLIPI, D. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-04-18
GIL28S0005	GILMAN, M. - GILMAN SN POM #145275 & #145276, SBBG #59874, CAS #154857, DS #171324, CAS-BOT-BC #230598 & #230595 1928-04-25
GUI08S0006	GUILLIAMS, C. & J. MARSHALL - GUILLIAMS #634 (A-D) SDSU #18394, #18388, #18364, & #18358 2008-04-23
GUS83S0013	GUSTAFSON, R. & KEELEY - GUSTAFSON #2571 RSA #446405 1983-05-06
HAR65S0004	HARWOOD, R. - HARWOOD SN SDSU #7880 1965-05-09
HEN64S0001	HENRICKSON, J. & RUTHERFORD - HENRICKSON #1836 RSA #182256, GH #376183 1964-05-16
HIL01S0005	HILL, S. & K. KRAMER - HILL #33499 UCR #123800, ILLS #211703, SEINET #7048030 2001-04-27
HOW64S0006	HOWE, D. - HOWE #3761 SDSU #8108 1964-04-12
HOW64S0007	HOWE, D. - HOWE #10193 RSA #172241 & #446406 1964-05-13
KOL46S0001	KOLUVEK, P. - KOLUVEK SN UC #775203, NY #37804, DS #342223, MO #100679895, SEINET #10946708, CAS-BOT-BC #230599 1946-06-11
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MOR81U0007	MOREY, S. - MAPS OF BOUNDED AREAS REPRESENTATIVE OF DATA POINTS FROM WES77R0004. 1981-04-24



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OESNDF0001 OESTERREIC, W. - BLM FIELD SURVEY FORM FOR PHOLISMA SONORAE XXXX-07-19
PEI32S0013 PEIRSON, M. - PEIRSON #9781 RSA #77813 1932-03-21
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REC79R0001 U.S. BUREAU OF RECLAMATION - REPORT ON RARE PLANT POPULATIONS ALONG THE ALL AMERICAN CANAL 1979-XX-XX
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ROO49S0046 ROOS, J. - ROOS #4984 RSA #89981 1949-04-07
RYA69S0007 RYAN, J. - RYAN #50 RSA #209611 1969-04-11
SDNNDU0003 SAN DIEGO NATURAL HISTORY MUSEUM - NOTES ON GENERAL LOCATIONS OF (AMMOBROMA) PHOLISMA SONORAE. XXXX-XX-XX
SKI95F0013 SKINNER, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1995-04-08
SPJ80S0003 SPJUT, R. & J. ADAMS - SPJUT #6153 HSC #66961 1980-04-30
THO78S0030 THORNE, R. - THORNE #52167 RSA #336093 1978-05-30
THO84S0003 THORNE, R. ET AL. - THORNE #58267 RSA #331172 & #0109169, NY #37806 1984-04-27
WAL73S0004 WALLACE, G. & CARLQUIST - WALLACE #1193 RSA #257643, CAS #763732, CAS-BOT-BC #293705 1973-05-14
WAL98F0006 WALL, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1998-06-08
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WIL66S0003 WILGUS, J. - WILGUS SN ARIZ #159492 (AS CITED IN WAR87R0001) 1966-05-15
YAT80S0001 YATSKIEVYCH, G. - YATSKIEVYCH #80-129 ARIZ #221475, MO #100654470, SEINET #10743474 (ALSO CITED IN WAR87R0001) 1980-04-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06550	EO Index: 46458
Key Quad: Ogilby (3211477)	Element Code: PDLNN02020
Occurrence Number: 12	Occurrence Last Updated: 2001-11-09

Scientific Name: <i>Pholisma sonorae</i>	Common Name: sand food
Listing Status:	Rare Plant Rank: 1B.2
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDDB Element Ranks:	Botanic Garden
Global: G2	
State: S2	

General Habitat: DESERT DUNES, SONORAN DESERT SCRUB.	Micro Habitat: LOOSE, DEEP SAND DUNES, USUALLY ON THE MORE STABLE, WINDWARD FACE. 0-125 M.
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Last Date Observed: 1902-05-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1902-05-XX	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
OGILBY, NEAR HEDGES MINES.

Detailed Location:
EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS BY CNDDDB AT OGILBY.

Ecological:

Threats:

General:
SITE BASED ON A 1902 COLLECTION BY STOCKTON. NEEDS FIELDWORK.

PLSS: T15S, R20E, Sec. 35, N (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633124 E702138	Latitude/Longitude: 32.81754 / -114.84079	Elevation (feet): 400

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

SDNNDU0003	SAN DIEGO NATURAL HISTORY MUSEUM - NOTES ON GENERAL LOCATIONS OF (AMMOBROMA) PHOLISMA SONORAE. XXXX-XX-XX
STO02S0001	STOCKTON, A. - STOCKTON SN UC #105882 1902-05-XX

APPENDIX E

Photo pages



Photo 1.

Representative photo of the *Brassica (nigra)* and other mustards semi-natural stands CNPS vegetation category.



Photo 2.

Representative photo of the *Larrea tridentata* *Encelia farinosa* alliance CNPS vegetation category.



Photo 3.

Representative photo of the *Parkinsonia florida*—*Olneya tesota* alliance CNPS vegetation category.



Photo 4.
Example Observation point during raptor surveys.



Photo 5.
Example Observation point used during raptor surveys.



Photo 6.
Example Observation point used during raptor surveys.



Photo 7.
Example Observation point used during raptor surveys.

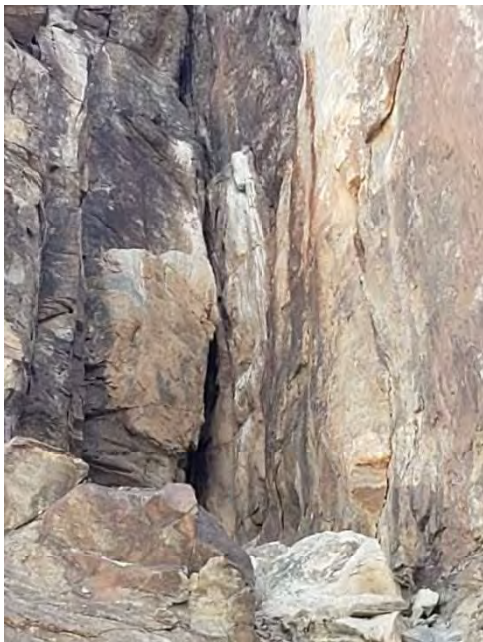


Photo 8.
Active eyrie for prairie falcon observed during raptor surveys.



Photo 9.
Active eyrie for prairie falcon observed during raptor surveys.



Photo 10.
Red-tailed hawk roost detected.



Photo 11.
Potentially suitable western burrowing owl habitat within the Analysis Area.



Photo 12.
Potentially suitable western burrowing owl habitat within the Analysis Area.



Photo 13.

Habitat assessed for Colorado desert fringe-toed lizard. Sandy area was assessed for potential habitat for the lizard.



Photo 14.

Habitat assessed for Colorado desert fringe-toed lizard.



Photo 15.

Abandoned underground mine assessed for bat use. There is a bat compatible closure (angle-iron gate) in the mine portal.



Photo 16.
Abandoned underground mine assessed for bat use.



Photo 17.
Location of Gila woodpecker historical detection location outside of Analysis Area.



Photo 18.
Representative small wash assessed for Gila woodpecker habitat within the Analysis Area.



Photo 19.
Active desert tortoise burrow observed.

APPENDIX F

**BLM Sensitive
Species 'Non' List**

Appendix F. BLM Sensitive Species for the El Centro Field Office with a Potential to Occur of “None”.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
AMPHIBIANS					
<i>Lithobates yavapaiensis</i> Lowland leopard frog	Occurs in a variety of perennial to near perennial waters in desert grasslands to pinyon juniper biotic communities (AGFD 2006). Inhabits large rivers, streams, canals, cienegas, cattle tanks or other aquatic features (Rorabaugh 2008). Can survive in semi-permanent aquatic systems by retreating into deep mud cracks, mammal burrows, or rock fissures, but large pools are required for adult survival and reproductive efforts (Bureau of Reclamation 2016). Elevation: In California, from near sea level to 5,961 ft (CDFW 2018).	Historic range included Arizona, California, Nevada, New Mexico, U.S. and extreme northeastern Baja California, northern Sonora, and possibly northwestern Chihuahua, Mexico (AGFD 2006, Bureau of Reclamation 2016). Current range is restricted to southern Arizona and adjacent portions of Sonora (Bureau of Reclamation 2016).	Assumed to be extirpated from California, otherwise extremely rare (CDFW 2018). Historically inhabited San Bernardino, Riverside and Imperial counties, along the Colorado River Valley and Imperial Valley (CDFW 2018).	None. There is no perennial water in the Analysis Area and this species is considered extirpated from California.	
BIRDS					
<i>Agelaius tricolor</i> Tricolored blackbird	Occupies areas near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs (CDWF 2008c). Feeds in grasslands and cropland habitats. Seeks cover in emergent wetland vegetation and also in trees and shrubs (CDWF 2008c).	Historically the ranged throughout most of lower-elevation California, with smaller nesting colonies known from Baja California, Nevada, and Oregon (USFWS 2019). The majority of the breeding population was found in the Central Valley, along the California coast, in the Sierra Nevada foothills, and in southern California (USFWS 2019).	Common locally throughout Central Valley and in coastal districts from Sonoma County (CDWF 2008c). More widespread in winter along the central coast and San Francisco Bay area and in portions of the Colorado Desert (CDWF 2008c).	None. The Analysis Area does not contain appropriate habitat for this species are no occurrence records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).	
<i>Charadrius montanus</i> Mountain plover	Utilizes short grasslands, plowed fields with little vegetation, and open sagebrush areas. Avoids areas with dense cover. Nests in open areas in high-elevation grassland, often blue gramma and buffalo grass patches (CDFW 2008a). Does not nest in California (CDFW 2008a). Elevation: In California, below 3,200 ft in winter (CDFW 2008a).	Breeds in western Great Plains and Rocky Mountains States from the Canadian border to Northern Mexico (USFWS 2021). In the U.S., breeding occurs in Colorado, Montana, Nebraska, New Mexico and Wyoming and less frequently in Kansas, Oklahoma, Texas, and Utah (USFWS 2021).	In California, winter resident September through March in Central Valley from Sutler and Yuba counties southward. Also in foothills west of San Joaquin Valley, Imperial Valley, Los Angeles County, and San Bernardino County and along the central Colorado river valley (CDFW 2008a, b). Extralimital records along the northern coast (CDFW 2008a).	None. This species is only known to winter in California and is outside the known range. There are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<p><i>Colaptes chrysoides</i></p> <p>Gilded flicker</p>	<p>This species is most common in riparian areas, desert washes, and other habitats with Joshua trees or saguaro cacti (CDFW 1997). Typically avoids urban and rural neighborhoods, even when saguaros are present (CDFW 1997, Corman and Wise-Gervais 2005). This species hybridizes with the Northern Flicker (Wiebe and Moore 2017). Hybrids are typically found in riparian woodlands at the upper end of the species' elevational range (Corman 2005b). This species is non-migratory and uses similar habitats year-round (Moore, Pyle, and Wiebe 2017). Nest in soft wood of a snag or dead branches of live cottonwood, willow, Joshua tree, or saguaro cacti (CDFW 1997).</p> <p>Elevation: In Arizona, typically 200–3,200 ft but occasionally up to 4,600 ft in riparian areas (Corman 2005b).</p>	<p>This species is non-migratory (Moore, Pyle, and Wiebe 2017). Occurs in Arizona, California and Nevada, U.S. and the Mexican states of Baja California, Baja California Sur, Sinaloa and Sonora (Moore, Pyle, and Wiebe 2017).</p>	<p>Considered nearly extirpated in California (CDFW 1997).</p>	<p>None. This species is considered extirpated, the Analysis Area lacks appropriate habitat, and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).</p>	
<p><i>Laterallus jamaicensis coturniculus</i></p> <p>California black rail</p>	<p>This species breeds in tidal marshes, shallow freshwater marshes, wet meadows, flooded grassy areas and wetlands fed by irrigation with persistent emergent vegetation (Eddleman, Flores, and Legare 1994, Richmond et al. 2010). Uses areas with water depths of roughly one inch or less (Dodge 2019). The <i>coturniculus</i> subspecies is non-migratory, although juveniles disperse erratically from their natal sites (Eddleman, Flores, and Legare 1994). Uses similar habitat year-round (Eddleman, Flores, and Legare 1994). Along the Colorado River they prefer dense bulrush stands, shallow water, and gently sloping shorelines (CDFW 1990b).</p> <p>Elevation: In Arizona, 150–600 ft (AGFD 2002a, Corman 2005a).</p>	<p>The <i>coturniculus</i> subspecies occurs in Arizona and California, U.S. and Baja California and Sonora, Mexico (Eddleman, Flores, and Legare 1994, Hinojosa-Huerta et al. 2013).</p>	<p>Scarce, yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area (CDFW 1990b). Formerly a local resident in coastal wetlands from Santa Barbara County to San Diego County (CDFW 1990b).</p>	<p>None. The Analysis Area lacks appropriate habitat and is outside the known ranged, and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).</p>	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Micrathene whitneyi</i> Elf owl	Occupies desert riparian habitat of moderate to open canopy, often with a moderate to sparse shrub understory, and typically bordering desert wash, desert scrub, or grassland habitats (CDFW 1990c). Taller trees with a shrub understory may be required. Utilizes moderately tall trees and snags, including cottonwood, sycamore, willow, mesquite, and saguaros often using cavities made by other birds (CDFW 1990c). Nested in cottonwood and saguaro in California but also nests in willow, sycamore, and mesquite trees or snags of moderate height (CDFW 1990c). In the Sonoran Desert regions they are found mainly in riparian habitats or in areas with numerous saguaro (Wise-Gervais 2005). Elevation: up to 7,000 ft (CDFW 1990c).	Found from the southwest U.S. to central Mexico and Baja California. Northern populations winter in central Mexico and on the Pacific slope north to Sinaloa, Mexico (Wise-Gervais 2005).	Rarely seen spring and summer resident of the Colorado River Valley. Records at Cottonwood Springs and Corn Springs in Riverside County (CDFW 1990c). Now nearly extirpated along the length of Colorado River. Reported only north of Needles, San Bernadino County, roughly 22 miles north of Blythe, Riverside County, and at Corn Springs since 1970 (CDFW 1990c).	None. This Analysis Area lacks appropriate habitat and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020)	
<i>Pelecanus occidentalis</i> Brown pelican	Inhabits estuarine, marine subtidal, and marine pelagic waters along the coasts (CDFW 1990b). Usually rests on water or inaccessible rocks, but uses mudflats, sandy beaches, wharfs, and jetties. Nests on rocky or low and brushy slopes of undisturbed islands, usually on the ground, but less often in bushes. Requires undisturbed lands adjacent to good marine fishing areas.	Found along the Atlantic, Pacific, and Gulf coasts of North and South America (USFWS 2009). Can also be found from Nova Scotia to Venezuela and on the Pacific Coast from British Columbia to south-central Chile and the Galapagos Islands (USFWS 2009). On the Gulf Coast they occur in Florida, Alabama, Louisiana, Texas, Mississippi, and Mexico. Can use the Salton Seas in California, lakes in Florida, and bodies of water in southeast Arizona (USFWS 2009).	Breeds on the Channel Islands, Anacapa in Santa Barbara and Santa Cruz counties (CDFW 1990b). Rare to uncommon on the Salton Sea and Colorado River reservoirs (CDFW 1990b).	None. The analysis area occurs outside of this species range and no suitable aquatic habitat exists within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<p><i>Strix occidentalis occidentalis</i></p> <p>California spotted owl</p>	<p>Inhabits forests and woodlands with large old trees and snags, high basal areas of trees and snags, dense canopies, multiple canopy layers, and downed woody debris (Shuford and Garadali 2008). In southern California, occupies montane hardwood and montane hardwood-conifer forests, especially with Canyon Live Oak and Bigcone Douglas fir and mid to high elevations. Uses coastal oak woodland, valley foothill riparian, and redwood forests at low elevations (Shuford and Garadali 2008)..</p> <p>Elevation: seal level in San Diego County to 6,600 ft in Tulare County (Shuford and Garadali 2008)..</p>	<p>Includes three resident subspecies: the Northern Spotted Owl (<i>S. o. caturina</i>) in the mountains of the Pacific coast from southwestern British Columbia south through western Washington and Oregon to San Francisco Bay, California; the Mexican Spotted Owl (<i>S. o. lucida</i>) in forested mountains from southern Utah and Colorado south to Michoacan Mexico; and the California Spotted Owl of northern California south along the western slope of Sierra Nevada and in mountains of central and southern California nearly to the Mexican border with three sight records from the Sierra San Pedro Matir in northern Baja California (Shuford and Garadali 2008).</p>	<p>In the southern California mountains, they are known to occur in the southern Coast ranges from Monterey County south through the Traverse and Peninsular ranges to southern San Diego County (Shuford and Garadali 2008). Detected in the Santa Cruz Mountains of San Mateo and Santa Cruz counties. Also observed in the San Bernardino Mountains (Shuford and Garadali 2008).</p>	<p>None. The analysis occurs outside this species range and no suitable forested habitat occurs within the Analysis Area.</p>	
<p><i>Vireo bellii arizonae</i></p> <p>Arizona bell's vireo</p>	<p>Inhabits low, dense riparian growth along water or intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry or mesquite in desert localities (CDFW 1990a). Utilizes thickets of willow and other low shrubs. Usually found near water (CDFW 1990a).</p> <p>Elevations: In California, summers below 2,000 ft (CDFW 1990a).</p>	<p>Primarily occurs throughout Arizona, Utah, Nevada, and Sonora Mexico and in California along the lower Colorado River (CDFW 1990a).</p>	<p>Rare summer resident along the Colorado River from Needles in San Bernardino County south to Blythe in Riverside County (CDFW 1990a). Also found at Picacho State Recreation Area and near Laguna Dam in Imperial County (CDFW 1990a).</p>	<p>None. No suitable riparian a habitat occurs within the analysis Area.</p>	
<p><i>Vireo bellii pusillus</i></p> <p>Least bell's vireo</p>	<p>Inhabits low, dense riparian growth along water or intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry or mesquite in desert localities (CDFW 1990a). Utilizes thickets of willow and other low shrubs. Usually found near water (CDFW 1990a).</p> <p>Elevations: In California, summers below 2,000 ft (CDFW 1990a).</p>	<p>Endemic to California and northern Baja California (CDFW 1990a).</p>	<p>Summer resident mostly in San Benito and Monterey counties, in coastal southern California from Santa Barbara County south, and along the western edge of the deserts in desert riparian habitat (CDFW 1990a).</p>	<p>None. No suitable riparian a habitat occurs within the analysis Area.</p>	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
MAMMALS					
<i>Myotis evotis</i> Long-eared myotis	Inhabits nearly all brush, woodland and forest habitats but coniferous woodlands and forests seem to be preferred. Roosts in buildings, crevices, under bark, and in snags(CDFW 1990g). Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but usually associated with coniferous forests (WBWG 2018). Elevation: sea level to at least 9,000 ft (CDFW 1990g).	Found across western North American from southwestern Canada (British Columbia, Alberta, and Saskatchewan) to Baja California and eastward in the U.S. to the western Great Plains (WBWG 2018).	Widespread in California but believed to be uncommon in most of its range. Avoids arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and Great Basin from the Oregon border south through the Tehachapi Mountains to the Coast Ranges (CDFW 1990g).	None. No suitable forest or woodland habitats occur within the analysis Area.	
<i>Myotis thysanodes</i> Fringed myotis	Utilizes a wide variety of habitats including pinyon-juniper, valley foothill hardwood and hardwood-conifer forests (CDFW 1990f). Roosts in crevices in buildings, mines, rocks, rock faces, bridges, and in large decadent trees or snags (WBWG 2018). Elevation: sea level to 9,350 ft but most common between 4,000 and 7,000 ft (WBWG 2018).	Throughout much of western North American from southern British Columbia, Canada, south the Chiapas, Mexico from Santa Cruz Island in California, east to the Black Hills of South Dakota (WBWG 2018).	Widespread in California occurring in all but the Central Valley and Colorado and Mojave deserts. Abundance appears to be irregular (CDFW 1990f).	None. No suitable forest or woodland habitats occur within the analysis Area.	
<i>Perognathus longimembris bangsi</i> Palm Springs little pocket mouse	Known from various vegetation communities including creosote scrub, desert scrub, and grasslands, generally occurring on loosely packed or sandy soils with sparse to moderately dense cover (Bolster 1998).	Historically known from the San Geronimo Pass area east to southern Joshua Tree National Park and Shaver's Valley, south through the Coachella Valley to Ocotillo (Bolster 1998).	Currently found in the northern and western regions of Coachella Valley north of Interstate 10 (Nature Serve 2021).	None. The analysis Area occurs outside the known range of this species.	
PLANTS					
<i>Ambrosia umbellata</i> var. <i>aurita</i> chaparral sand-verbena	Annual herb that blooms March through September. Inhabits chaparral, coastal scrub, and desert dunes (CNPS 2021c). Elevation: 250 to 5,250 ft (CNPS 2021c).	Known from California, Arizona, and Baja California (CNPS 2021c).	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties (CNPS 2021c). One location in Anza-Borrego does not appear to be naturally occurring.	None. No suitable desert dunes of chaparral habitat occur within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Astragalus magdalenae</i> <i>var. peirsonii</i> Peirson's milk-vetch	Perennial herb that blooms December through April. Inhabits desert dunes (CNPS 2021m). Elevation: 200 to 750 ft (CNPS 2021m).	Occurs in California, Arizona, Baja California, and Sonora Mexico (CNPS 2021m).	Imperial County and presumed extirpated if once present in San Diego County (CNPS 2021m).	None. No suitable desert dune habitat occurs within the analysis Area.	
<i>Choenactis glabriuscula</i> <i>var. orcuttiana</i> Orcutt's pincushion	Annual herb that blooms January through August. Inhabits sandy substrates including coastal bluff scrub in coastal dunes (CNPS 2021k). Elevation: sea level to 325 ft (CNPS 2021k).	Occurs in California and Baja California (CNPS 2021k).	Found in Los Angeles, San Diego, Ventura counties and presume extirpated in Orange County (CNPS 2021k).	None. The analysis Area occurs outside of the range of this species and no suitable coastal dunes occur within the analysis Area.	
<i>Chorizanthe polygonoides</i> <i>var. longispina</i> Long-spined spineflower	Annual herb that blooms April through July. Inhabits clay substrates in chaparral, coastal scrub, meadows, seeps, valley, foothill grassland, and vernal pools (CNPS 2021f). Elevations: 100 to 5,000 ft (CNPS 2021f).	Occurs in California and Baja California (CNPS 2021f).	Found in Orange, Riverside, Santa Barbara, and San Diego counties (CNPS 2021f).	None. The analysis Area occurs outside of the range of this species and no suitable coastal dunes occur within the analysis Area.	
<i>Cylindropuntia fosbergii</i> Pink teddy-bear cholla	Perennial stem succulent that blooms March through May. Inhabits Sonoran desert scrub habitats (CNPS 2021n). Elevation: 280 to 2,790 ft (CNPS 2021n).	Endemic to California (CNPS 2021n).	Occurs in San Diego County (CNPS 2021n).	None. The Analysis Area occurs outside of the known range of this species.	
<i>Dieteria asteroides</i> <i>var. lagunensis</i> Mt. Laguna aster	Perennial herb that blooms July through August. Utilizes cismontane woodland and lower montane coniferous forest (CNPS 2021i). Elevation: 2,600 to 7,900 ft (CNPS 2021i).	Located in California and Baja California (CNPS 2021i).	Found in San Diego County (CNPS 2021i).	None. The Analysis Area is outside the known range of this species.	
<i>Fremontodendron mexicanum</i> Mexican flannelbush	Perennial evergreen shrub that blooms March through June. Inhabits gabbroic, metavolcanic, or serpentine substrates within closed-cone coniferous forest, chaparral, and cismontane woodlands (CNPS 2021g). Elevation: 30 to 2,350 ft (CNPS 2021g).	Known from California and Baja California (CNPS 2021g).	Found in San Diego County (CNPS 2021g).	None. Outside known range and no occurrence records.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Grindelia halii</i> San Diego gumplant	Perennial herb that blooms May through October. Utilizes chaparral, lower montane coniferous forest, meadow, seeps, valley and foothill grassland (CNPS 2021q). Elevation: 280 to 5,725 ft (CNPS 2021q).	Endemic to California (CNPS 2021q).	Found in San Diego County (CNPS 2021q).	None. Outside known range and no occurrence records.	
<i>Helianthus niveus</i> subsp. <i>tephrodes</i> Algodones Dunes sunflower	Perennial herb that blooms September to May. Lives on desert dunes (CNPS 2021a). Elevation: 165 to 330 ft (CNPS 2021a).	Found in California, Arizona, and Sonora Mexico (CNPS 2021a).	Occurs in Imperial and San Diego counties (CNPS 2021a).	None. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.	
<i>Hulsea californica</i> San Diego sunflower	Perennial herb that blooms April through June. Inhabits openings and burned areas in chaparral, lower montane coniferous forest, and upper montane coniferous forests (CNPS 2021r). Elevation: 3,000 to 9,565 ft (CNPS 2021r).	Endemic to California (CNPS 2021r).	Found in Riverside and San Diego counties (CNPS 2021r).	None. Outside known range and no occurrence records.	
<i>Lepidium flavum</i> var. <i>felipense</i> Borrego Valley peppergrass	Annual herb that blooms March through May. Inhabits sandy areas in pinyon and juniper woodland and Sonoran desert scrub (CNPS 2021b). Elevation: 1,495 to 2,755 ft (CNPS 2021b).	Occurs in California and Baja California (CNPS 2021b).	Found in San Diego County (CNPS 2021b).	None. Outside known range and no occurrence records.	
<i>Monardella nana</i> subsp. <i>leptosiphon</i> San Felipe monardella	Perennial rhizomatous herb that blooms June through July. Inhabits chaparral and lower montane coniferous forest (CNPS 2021s). Elevation: 3,940 to 6,085 ft (CNPS 2021s).	Occurs in California and Baja California (CNPS 2021s).	Found in Riverside and San Diego counties (CNPS 2021s). Note: Known mostly from Hot Springs Mountains. Most of the plants from the Palomar Mountains are mis-identified. May not warrant taxonomic recognition due to problems with type specimen and its distribution and a lot of intermediacy between current subtaxa, and evident integrations (CNPS 2021s).	None. No suitable chaparral, or forest habitats occur within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Palafoxia arida</i> var. <i>gigantea</i> Giant Spanish needle	Annual/perennial herb that blooms January through May. Inhabits desert dunes (CNPS 2021e). Elevation: 50 to 330 ft (CNPS 2021e).	Occurs in California and Sonora Mexico (CNPS 2021e).	Known only from Imperial County (CNPS 2021e).	None. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.	
<i>Streptanthus campestris</i> Southern jewel-flower	Perennial herb that blooms May through July. Inhabits rocky areas in chaparral, lower montane coniferous forest, and pinyon juniper woodland (CNPS 2021u). Elevation: 2,950 to 7,545 ft (CNPS 2021u).	Found in California and Baja California (CNPS 2021u).	Occurs in Imperial, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura counties (CNPS 2021u).	None. No suitable chaparral, woodlands or forest habitats occur within the Analysis Area.	
<i>Symphotrichum defoliatum</i> San Bernardino aster	Perennial rhizomatous herb that blooms July through November. Inhabits areas near ditches, streams and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grasslands that are vernal mesic (CNPS 2021p). Elevation: 0.6 to 620 ft (CNPS 2021p).	Endemic to California (CNPS 2021p).	Found in Imperial, Kern, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and possibly in San Luis Obispo counties (CNPS 2021p).	None. No suitable aquatic habitat occurs within the analysis Area.	
<i>Thermopsis californica</i> var. <i>semota</i> Velvety false lupine	Perennial rhizomatous herb that blooms March through June. Inhabits cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grasslands (CNPS 2021v). Elevation: 305 to 570 ft (CNPS 2021v).	Endemic to California (CNPS 2021v).	Found in San Diego County (CNPS 2021v).	None. Outside known range and no occurrence records.	
<i>Thysanocarpus rigidus</i> rigid fringedpod	Annual herb that blooms February through May. Inhabits dry rocky slopes in pinyon and juniper woodland (CNPS 2021o). Elevation: 185 to 70 ft (CNPS 2021o).	Occurs in California and Baja California (CNPS 2021o).	Found in Los Angeles, Riverside, San Bernardino, and San Diego counties (CNPS 2021o).	None. Outside the known range and no occurrence records.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
REPTILES					
<i>Actinemys marmorata pallida</i> Southwestern pond turtle	Inhabit ponds, lakes, rivers, streams, creek, marshes, and irrigation ditches with abundant vegetation and either rocky or muddy bottoms in woodland, forests, grassland (CHS 2021f). Prefers shallower area in pools with logs, rocks, cattail mats, and exposed banks required for basking. May enter brackish water and seawater (CHS 2021f). Elevation: sea level to 6,696 ft but mostly below 4,890 ft (CHS 2021f).	Occurs in California and Baja California (CHS 2021f).	Found south, east, and west of the San Francisco Bay area with eastern boundary along the edge of the South Coast Ranges with an isolated, relict population along the Mojave River at Campy Cody and at Afton Canyon (CHS 2021f).	None. The analysis Area occurs outside the known range of this species.	
<i>Coleonyx switaki</i> Barefoot banded gecko	Inhabits rocky areas at the heads of canyons. Restricted to areas dominated by massive rock formations (CDFW 1990j). In flatlands, canyons, thornscrub and in where vegetation is sparse (CHS 2021e). Elevation: near sea level to over 2,000 ft (CHS 2021e).	Occurs in California and Baja California (CDFW 1990j).	Found on the east face of the Peninsular Ranges with unsubstantiated reports near Anza Borrego Desert in San Diego County (CDFW 1990j). Isolated population of subspecies <i>C.s. switaki</i> is known from Coyote Mountains of Imperial County (CHS 1990j).	None. The analysis Area occurs outside the known range of this species.	
<i>Phrynosoma mcallii</i> Flat-tailed horned lizard	Inhabits hard packed sandy flats and low dunes in Lower Colorado River desertscrub community, particularly in areas with creosote-white bursage vegetation (USFWS Brennan 2008, 2011). Restricted to areas of fine sand and sparse vegetation in desert washes and flats (CDFW 2000a). Most common in areas with high density of harvester ants and fine windblow sand but rarely occurs on dunes (CHS 2021b). Elevation: Below 820 ft (AGFD 2010b, CHS 2021b).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (USFWS 2011).	Found in central Riverside, eastern San Diego and Imperial counties (CDFW 2000a). Throughout most of the Colorado desert from Coachella Valley south through the Imperial Valley and west into the Anza-Borrego desert, south to Baja California, southwestern Arizona, and northwestern Sonora (CHS 2021b).	None. No suitable hard packed sandy flats or low dunes occur within the Analysis Area. No records for this species occur within the Analysis Area.	<i>Phrynosoma mcallii</i> Flat-tailed horned lizard

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Phrynosoma blainvilli</i> Coast horned lizard	Inhabits valley-foothill hardwood, conifer and riparian habitats, pine-cypress, juniper, and annual grassland habitats (CDFW 2000a). Occurs in open areas of sandy soil and low vegetation in valleys, foothills, semiarid mountains and along dirt roads or near ant hills (CHS 2021a). Elevation: Sea level to 6,000 ft (CDFW 2000a) or 8,000 ft (CHS 2021a).	Endemic to California (CHS 2021a).	Historically found along the Pacific coast from the Bay Area to Baja California border and west the Sierra Nevada Mountains (CHS 2021a).	None. The analysis Area occurs outside the known range of this species.	
<i>Thamnophis hammondi</i> Two-striped gartersnake	Inhabit vegetated areas associated with permanent or semi-permanent bodies of water (CDFW 2000). Associated vegetation includes oak woodland, willow, coastal sage scrub, scrub oak, sparse pine, chaparral, and brushland (CHS 2021g). Elevation: sea level to 8,000 ft (CDFW 2000).	Occurs in California and Baja California (CHS 2021g)	Found on the southeastern slope of the Diablo Range and the Salinas Valley south along the South Coast and Traverse ranges to the Mexican border and on Santa Catalina Island (CDFW 2000).	None. The analysis Area occurs outside the known range of this species.	

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Appendix F: Project Design Features, Conservation Management Actions, and Mitigation Measures

SMP would prevent unnecessary or undue degradation of public lands by complying with the performance standards found in 43 CFR 3809.415 and 3809.420, as applicable. SMP would comply with BLM’s terms and conditions related to the specific mining and reclamation activities and with other federal and state laws related to environmental protection and protection of cultural resources. SMP would commit to the following environmental protection measures to prevent unnecessary or undue degradation during Project activities. The measures are derived from the general requirements established in 43 CFR 3809.420, as applicable, as well as other federal and state water and air quality regulations.

Table F-1: Project Design Features

Number	Project Design Feature	Resources Impacted
PDF-1	<p>Surface water within the Project Area consists of stormwater runoff within natural ephemeral drainages. The Project would require a California General Permit (CGP) pursuant to CGP Regulation (National Pollutant Discharge Elimination System No. CAS000002; State Water Resources Control Board Order No. 2009-0009-DWQ amended by 2010-0014-DWQ and 2012-0006-DWQ). Construction activities subject to the CGP include:</p> <ul style="list-style-type: none"> • Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre. • All areas subject to land surface disturbance activities related to the Project including, but not limited to, Project staging areas, immediate access areas, and storage areas. All previously active areas are still considered active areas until final stabilization is complete. 	Water Resources
PDF-2	<p>A BLM approved SWPPP would be developed and implemented to control sedimentation from disturbance associated with Project activities. BMPs would be developed following the BLM’s BMPs for Water Quality 2022 to manage disturbed surfaces. Sediment control structures could include, but not be limited to, fabric and/or hay bale filter fences, siltation or filter berms, and downgradient drainage channels in order to prevent unnecessary or undue degradation.</p>	Water Resources
PDF-3	<p>Water used for dust control would be kept to a practicable minimum in order to minimize the risk of water runoff, and any water runoff would be managed so not to cause downstream erosion or flooding nor cause an exceedance of applicable water quality standards.</p>	Water Resources
PDF-4	<p>Only minor servicing of mobile equipment (greasing and periodic fueling) would be conducted on BLM lands, limiting the potential for diesel fuel spills. Spill response kits would be maintained to ensure that pollutants are prevented from entering into washes. Any pollutants generated by Project activities would be properly disposed of in accordance with applicable regulations. The Project does not trigger any waste</p>	Water Resources

Number	Project Design Feature	Resources Impacted
	discharge requirements under Title 27, California Code of Regulations, Section 20005 et seq.	
PDF-5	SMP would implement BMPs for erosion and sediment control measures that would be identified in the BLM approved SWPPP. The effectiveness of erosion control measures would be monitored throughout the duration of the Project as required by the CGP. SMP would follow all erosion and sediment control measures identified in the Reclamation Plan (Sespe 2022), including, but not limited to, specific prohibitions, effluent limitations, potential contaminant source identification, practices to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general stormwater BMPs, training, recordkeeping, and sampling procedures.	Water Resources, Soils
PDF-6	SMP would operate under a monitoring program that would be developed for BLM approval under the Proposed Action.	Water Resources, Soils
PDF-7	Air quality impacts associated with the Project would be primarily from fugitive dust generation by vehicles and equipment during operations and from vehicle and drill powerplant emissions. Road dust emissions and tailpipe emissions from drilling activities and vehicle travel along the access roads have the potential to release regulated pollutants. The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions.	Air Quality
PDF-8	SMP would properly dispose of waste oil, other related fluids, filters, oily rags, etc., in appropriate disposal locations. Litter and trash generated by the contractors would be collected in appropriate containers and removed as required from the Project Area. Project-related refuse would be hauled to an authorized landfill for disposal. No refuse would be disposed on-site.	Hazardous Material/Solid Waste
PDF-9	Portable toilet facilities provided for the duration of the Project would be maintained by contractors, and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried on-site.	Hazardous Material/Solid Waste
PDF-10	Prior to Project activities, pre-construction migratory bird surveys would be conducted by a BLM-approved Qualified Biologist within 48 hours of proposed disturbance during the migratory bird breeding season (February 15 to August 31). These pre-construction surveys would also include vegetation surveys, including noxious and invasive species and special status species. Should active nests be identified during the pre-construction surveys, the following species-specific avoidance buffers would be implemented: 200 feet for non-ESA listed species; 300 feet for ESA listed species; and 500 feet for raptor species. No work would be conducted within the avoidance buffer areas until a BLM-approved Qualified Biologist determines that the nest is no longer active, fledglings are independent of the nest, the nest has failed, or the BLM approves a buffer reduction deemed appropriate by the Qualified Biologist. If an avoidance buffer needs to be reduced, SMP would contact the U.S. Fish and Wildlife	Wildlife Resources, Vegetation

Number	Project Design Feature	Resources Impacted
	Service (USFWS) and BLM and provide the necessary survey information to support the buffer reduction.	
PDF-11	During the bat maternity season (April 1 to August 31), SMP would implement a 500-foot avoidance buffer for drilling activities around features with evidence of use by BLM sensitive bat species. No prolonged drilling activity (i.e., drill site operations) would occur within this buffer; however, overland travel via access routes through the buffer would be permitted. SMP would utilize shielded lights that would limit nighttime drilling lighting within the avoidance buffers.	Wildlife Resources
PDF-12	To the extent possible, the Project would be completed outside the Mojave Desert tortoise (<i>Gopherus agassizii</i>) active season (March 15 to November 1), between November 2 and March 14.	Wildlife Resources
PDF-13	Within 24 hours of the commencement of Project activities, a BLM-approved Authorized or Qualified Biologist would inspect the area to be disturbed plus a 500-foot buffer, focusing on areas that could provide suitable desert tortoise burrow or cover sites, such as dry washes with caliche. This may be combined with the above pre-construction migratory bird survey if taking place during the nesting season. Burrows would be flagged such that they would be avoided by Project activities. When requesting authorization of biologists to handle desert tortoises, the Permittee/BLM will submit credentials to the USFWS for review and approval at least 30 days prior to the need for the biologist to perform those activities in the field.	Wildlife Resources
PDF-14	A BLM-approved Authorized or Qualified Biologist would be on-site prior to and during Project actions involving heavy machinery or any surface disturbing activities to ensure no desert tortoises are killed or burrows crushed, and Project staff are compliant with tortoise best practices.	Wildlife Resources
PDF-15	All surface disturbing activity would be limited to the land area essential for the Project. In determining these limits, consideration would be given to topography, public health and safety, placement of facilities, and other limiting factors. Work area boundaries would be appropriately marked to minimize disturbance. All workers would strictly limit their activities and vehicles to the areas marked. All workers would be trained to recognize work area markers and to understand equipment movement restrictions.	Wildlife Resources
PDF-16	All workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on desert tortoise distribution, general behavior and ecology, protection afforded by state and federal endangered species acts (including prohibitions and penalties), procedures for reporting encounters, and the importance of following the protection measures. The education program may consist of a class or video presented by a BLM-approved Authorized or Qualified Biologist. The presentation to be used would be reviewed and approved by the BLM Wildlife Biologist or other biologist.	Wildlife Resources
PDF-17	All personnel would be notified that the desert tortoise is a species listed as threatened under the ESA and protected by	Wildlife Resources

Number	Project Design Feature	Resources Impacted
	state and federal law. Fines can be as high as \$50,000 and/or one year in prison for violations.	
PDF-18	Personnel would be notified that desert tortoises are not to be handled, fed, or harassed in any way. If encountered, tortoises would be allowed space and time to move from the area on their own volition. The only exception to this is if the tortoise is in imminent, unavoidable danger (i.e., certain to be injured or killed if no action is taken) and an Authorized Biologist is not present. In this case, Project personnel may move a desert tortoise the shortest distance necessary to remove the tortoise from imminent danger. The desert tortoise shall be monitored until an Authorized Biologist or USFWS is contacted for further instruction.	Wildlife Resources
PDF-19	If a desert tortoise is discovered in harm's way, an Authorized Biologist will move the tortoise into adjacent habitat following the latest USFWS clearance and handling procedures. The tortoise would not be moved more than 300 meters from their capture location. If the Authorized Biologist observes significant clinical signs of ill health, the tortoise should be removed from the wild in coordination with the USFWS. If suitable habitat is not available within 300 meters of the tortoises' capture locations or other land ownership restrictions prevent the release of individuals within 300 meters (e.g., privately owned land lacking permission), the tortoise should be translocated to the Recipient Site identified (Figure 3-14).	Wildlife Resources
PDF-20	Personnel who attend tortoise training will sign an attendance sheet, which would be submitted to the BLM for their information. Should BLM staff inspect the site during construction activities, workers on-site should be able to provide proof of tortoise training (a hard hat sticker is recommended for this purpose).	Wildlife Resources
PDF-21	SMP would designate a field contact representative (FCR) who would be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be on-site during all Project activities. The FCR would have the authority to halt Project activities that are in violation of the stipulations. The FCR would have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of the Project Proponent, or a BLM-approved Authorized or Qualified Biologist. Any incident occurring during Project activities that is considered by the FCR to be in non-compliance with the mitigation plan would be documented immediately by the FCR. The FCR would ensure that appropriate corrective action is taken. Corrective actions would be documented by the FCR. The following incidents would require immediate cessation of the construction activities causing the incident, including: <ul style="list-style-type: none"> • Imminent threat of injury or death to a desert tortoise; • Unauthorized handling of a desert tortoise, regardless of intent, except in the instance of imminent, unavoidable danger; 	Wildlife Resources

Number	Project Design Feature	Resources Impacted
	<ul style="list-style-type: none"> • Operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads, and • Conducting any construction activity without a biological monitor where one is required. If a tortoise is encountered during construction activities, work would be halted in proximity to the tortoise until an on-call BLM-approved Authorized Biologist can move the animal from harm's way or until the desert tortoise leaves of its own accord. 	
PDF-22	Where possible, motor vehicle access would be limited to maintained roads and designated routes. All vehicle tracks that might encourage public use would be reclaimed after Project-specific use. Barriers would be installed to prevent unauthorized vehicular traffic and signs would be posted indicating these roads would be for authorized use only.	Wildlife Resources
PDF-23	Speed Limits: Vehicle speed within Project area, along right-of-way maintenance roads and on routes designated for limited use, would not exceed 20 miles per hour. Speed limits would be clearly marked by the Proponent, and workers would be made aware of these limits.	Wildlife Resources, Access and Transportation
PDF-24	Tortoises Under Vehicles: Vehicles parked in desert tortoise habitat would be inspected immediately prior to being moved. The practice of placing an orange cone by the driver-side door would be used as a reminder to check for tortoise before re-entering and moving the vehicle. If a tortoise is found beneath a vehicle, a BLM-approved Authorized Biologist would be contacted to move the animal from harm's way, or the vehicle would not be moved until the desert tortoise leaves of its own accord.	Wildlife Resources
PDF-25	Access roadside signs depicting a picture of desert tortoise would be posted to remind workers of the potential presence of tortoise within the Project Area.	Wildlife Resources
PDF-26	Project maintenance and construction, stockpiles of excavated materials, equipment storage, and vehicle parking would be limited to existing disturbed areas wherever possible. Should use of existing disturbed areas prove infeasible, any new disturbance would be confined to the smallest practical area, considering topography, placement of facilities, location of burrows or vegetation, public health and safety, and other limiting factors. Special habitat features, particularly tortoise burrows, would be flagged by the BLM-approved Authorized or Qualified Biologist so that they may be avoided by installation equipment and during placement of poles and anchors.	Wildlife Resources, Vegetation, Soils
PDF-27	All trash and food items generated by construction and maintenance activities would be promptly contained and regularly removed from the Project site to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets would be provided on-site if appropriate.	Wildlife Resources, Hazardous Material/Solid Waste
PDF-28	Feeding of wildlife and/or leaving of food or trash as an attractive nuisance to wildlife is prohibited. Particular attention would be paid to "micro-trash" (including such small items as screws, nuts, washers, nails, coins, rags, small	Wildlife Resources, Hazardous Material/Solid Waste

Number	Project Design Feature	Resources Impacted
	electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny). All trash and food items would be promptly contained within closed, wildlife-proof containers. These would be regularly removed from the Project site to reduce the attractiveness of the area to ravens and other predators.	
PDF-29	Domestic pets are prohibited on-site. This prohibition does not apply to the use of domestic animals that may be used to aid in official and approved monitoring procedures/protocols, or service animals under Titles II and III of the Americans with Disabilities Act.	Wildlife Resources
PDF-30	To prevent the introduction of new noxious and invasive weed species into the Project Area, all vehicles and equipment that will be used on-site transported from outside of the Project Area would be washed and cleaned prior to entering the Project Area at a designated location outside of the Project Area.	Vegetation, Noxious and Non-native Invasive Species
PDF-31	All seed mixes and natural erosion products used for reclamation would be certified weed-free.	Vegetation, Noxious and Non-native Invasive Species
PDF-32	Weed control practices would be implemented as necessary in coordination with the BLM, and non-native invasive plants would be removed manually.	Vegetation, Noxious and Non-native Invasive Species
PDF-33	All revegetation efforts in the Project Area will be done with a BLM-approved native seed mix that closely matches the surrounding vegetation type.	Vegetation, Noxious and Non-native Invasive Species
PDF-34	Pre-construction vegetation surveys, including for noxious and non-native invasive species and special status species, would be conducted in tandem with the pre-construction migration bird surveys described above. Should special status plant species be identified during Project activities, the BLM would require SMP to implement temporary barrier fencing around the individual plants for avoidance and to minimize impacts throughout the life of the Project.	Vegetation, Special Status Species
PDF-35	Injury: Should any desert tortoise be injured or killed, all activities would be halted and the BLM-approved Authorized Biologist immediately contacted. The biologist would have the responsibility for determining whether the animal should be transported to a veterinarian for care, which is paid for by the Project Proponent, if involved. If the animal recovers, the USFWS is to be contacted to determine the final disposition of the animal; few injured desert tortoises are returned to the wild.	Wildlife Resources
PDF-36	SMP has committed to avoid instances of all known cultural resources and engage in consultation with the Native American Heritage Commission and the Quechan Tribe of the Fort Yuma Reservation regarding the Project. Additionally, SMP prepared and implemented a tribal monitoring plan regarding the Project.	Cultural Resources
PDF-37	All ground-disturbing activities have the potential to unearth archaeological sites or human remains; all such discoveries on federal lands would be treated in accordance with the Native American Graves and Repatriation Act (25 USC 30001-3013) and other federal and state regulations.	Cultural Resources
PDF-38	SMP would implement site-specific fire prevention/protection actions, which would, at a minimum,	Human Health and Safety

Number	Project Design Feature	Resources Impacted
	include designating Project fire coordinators, providing adequate fire suppression equipment (including in vehicles), and establishing emergency response information relevant to the Project Area.	
PDF-39	SMP would have a 2,000-gallon portable water storage tank on-site for dust suppression that would also be available to assist in firefighting operations. SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits. In the event of an initial, small fire that does not create enough smoke, flame, and heat to prevent fighting the fire using a hand-held fire extinguisher or a small water hose, and providing no one would be endangered, SMP personnel and/or contractors would make a reasonable effort to extinguish the fire. If two or more people are present, one would fight the fire while one reports to 911 the size, type, and location in the event the fire grows out of control. Personnel would not directly engage any fire which is beyond the incipient stage (i.e., a fire which has progressed to the point it has substantially involved any structure/equipment).	Air Quality, Human Health and Safety
PDF-40	Planning and prevention of fires would also be managed through the appropriate handling and storage of fuels, inspections, and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training. SMP would coordinate with local law enforcement and fire departments to provide 24-hour access as needed for emergency response.	Human Health and Safety
PDF-41	SMP would have two fuel tanks on-site that would contain no more than 1,000 gallons of diesel fuel and 300 gallons of jet fuel, respectively. To prevent the spread of any accidental leakage in storage, fuel and lubricants would be stored in a shallow (4-inch deep), 10-foot by 10-foot lined reservoir at each drill site and in an approximately 6-inch deep, 20-foot by 40-foot lined reservoir at the fueling station. During drilling operations, the drill rig would be parked on top of plastic sheeting. A spill prevention kit would be stored on-site consisting of an oil-only absorbent mat material (i.e., PIG® absorbent mat pad) and absorbent clay or shale (i.e., Oil-Dri or “kitty litter”). The volume of absorbent that would be kept on-site for potential spills is estimated to be 50 gallons at each active drill site and 100 gallons at the fueling station. As there would be up to two active drill sites at one time, an estimated 200 gallons of absorbent that would be kept on-site.	Soils, Hazardous Material/Solid Waste
PDF-42	Cellular telephone service is generally available within the Project Area site for emergency and other communications. A satellite phone would also be made available in case of emergencies. Contractors would be trained in proper emergency response, incident reporting, and general health and safety issues. All equipment would be maintained in a safe and orderly manner.	Human Health and Safety
PDF-43	A Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project Area.	Soils, Hazardous Material/Solid Waste, Water Resources

Number	Project Design Feature	Resources Impacted
PDF-44	Fueling would be performed on a 20-foot by 40-foot plastic sheeting over an approximately 6-inch-deep reservoir. The fueling area would be sloped gently to one corner with a small sump to contain any accidental releases of fuel.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-45	Equipment servicing would be performed within the fueling area or on plastic sheeting within the drill sites.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-46	A standard procedure fueling and servicing would be performed at the designated fueling stations and drill sites; however, equipment may need to be serviced at times elsewhere within the Project Area, and spill protection measures would be implemented.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-47	Diesel fuel is a major consumable for the exploration equipment. Diesel fuel is available from local suppliers and would be received in tank trucks. The Project would receive and unload diesel to the on-site storage tank.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-48	Diesel fuel would be offloaded using drip-less connections in a contained area to eliminate spillage contamination. The off-loading sites would be designed to drain into the main storage site containment and have a spill response kit containing booms and clean-up materials to ensure that any off-containment spillage is immediately contained and cleaned.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-49	A small spill response trailer would be maintained in the Project Area to clean up any spills.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-50	Inspections of fuel valves and other inlets and outlets as well as secondary containment would be made daily.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-51	All site personnel that would be involved in fuel-handling would be trained in the operation and maintenance of equipment to prevent discharges.	Soils, Hazardous Material/Solid Waste, Water Resources
PDF-52	The fuel tanks would be secured and locked during times when SMP personnel and contractors are not on-site.	Soils, Hazardous Material/Solid Waste, Water Resources

In addition to the applicant-committed PDFs, the following CMAs per the DRECP LUPA (BLM 2016), as described below, would be required by the BLM. All of the CMAs described below would be fully supported and covered financially by SMP.

Table F-2: Conservation Management Actions

Number	Conservation Management Action	Resources Affected
LUPA-BIO-7	Where DRECP vegetation types or Focus or BLM Special Status Species habitats may be affected by ground-disturbance and/or vegetation removal during pre-construction, construction, operations, and decommissioning related activities but are not converted by long-term (i.e., more than two years of disturbance, see Glossary of Terms) ground disturbance, restore these areas following the standards, approved by BLM authorized officer, following the most recent BLM policies and procedures for the vegetation community or species	Vegetation, including Noxious and Non-native Invasive Species and Special Status Species

Number	Conservation Management Action	Resources Affected
	<p>habitat disturbance/impacts as appropriate, summarized below:</p> <ul style="list-style-type: none"> • Implement site-specific habitat restoration actions for the areas affected including specifying and using: <ul style="list-style-type: none"> • The appropriate seed (e.g., certified weed- free, native, and locally and genetically appropriate seed) • Appropriate soils (e.g., topsoil of the same original type on site or that was previously stored by soil type after being salvaged during excavation and construction activities) • Equipment • Timing (e.g., appropriate season, sufficient rainfall) • Location • Success criteria • Monitoring measures • Contingency measures, relevant for restoration, which includes seeding that follows BLM policy when on BLM administered lands. • Salvage and relocate cactus, nolina, and yucca from the site prior to disturbance using BLM protocols. To the maximum extent practicable for short-term disturbed areas (see Glossary of Terms), the cactus and yucca will be re-planted back to the original site. • Restore and reclaim short-term (i.e. 2 years or less, see Glossary of Terms) disturbed areas, including pipelines, transmission projects, staging areas, and short-term construction-related roads immediately or during the most biologically appropriate season as determined in the activity/project specific environmental analysis and decision, following completion of construction activities to reduce the amount of habitat converted at any one time and promote recovery to natural habitats and vegetation as well as climate refugia and ecosystem services such carbon storage. 	
LUPA-BIO-10	<p>Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following:</p> <ul style="list-style-type: none"> • Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds. • Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site. • Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds. 	Vegetation, including Noxious and Non-native Invasive Species

Number	Conservation Management Action	Resources Affected
	<ul style="list-style-type: none"> • Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species. • Reestablish native vegetation quickly on disturbed sites. • Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas. • Use certified weed-free mulch, straw, hay bales, or equivalent fabricated materials for installing sediment barriers. 	
LUPA-BIO-12	<p>For activities that may impact Focus or BLM Special Status Species, implement the following LUPA CMA for noise:</p> <ul style="list-style-type: none"> • To the extent feasible, and determined necessary by BLM to protect Focus and BLM sensitive wildlife species, locate stationary noise sources that exceed background ambient noise levels away from known or likely locations of BLM sensitive wildlife species and their suitable habitat. • Implement engineering controls on stationary equipment, buildings, and work areas including sound-insulation and noise enclosures to reduce the average noise level, if the activity will contribute to noise levels above existing background ambient levels. • Use noise controls on standard construction equipment including mufflers to reduce noise 	Noise; Wildlife, including Special Status Species
LUPA-BIO-13	<p>Implement the following CMA for project siting and design</p> <ul style="list-style-type: none"> • To the maximum extent practicable site and design projects to avoid impacts to vegetation types, unique plant assemblages, climate refugia as well as occupied habitat and suitable habitat for Focus and BLM Special Status Species (see “avoid to the maximum extent practicable” in Glossary of Terms). • The siting of projects along the edges (i.e. general linkage border) of the biological linkages identified in Appendix D (Figures D-1 and D-2) will be configured (1) to maximize the retention of microphyll woodlands and their constituent vegetation type and inclusion of other physical and biological features conducive to Focus and BLM Special Status Species’ dispersal, and (2) informed by existing available information on modeled focus and BLM Special Status Species habitat and element occurrence data, mapped delineations of vegetation types, and based on available empirical data, including radio telemetry, wildlife tracking sign, and road-kill information. Additionally, projects will be sited and designed to maintain the function of F Special Status Species connectivity 	Wildlife, including Special Status Species; Vegetation, including Noxious and Non-native Invasive Species and Special Status Species

Number	Conservation Management Action	Resources Affected
	<p>and their associated habitats in the following linkage and connectivity areas:</p> <ul style="list-style-type: none"> • Within a 5-mile-wide linkage across Interstate 10 centered on Wiley's Well Road to connect the Mule and McCoy mountains (the majority of this linkage is within the Chuckwalla ACEC and Mule-McCoy Linkage ACEC) . • Within a 3-mile-wide linkage across Interstate 10 to connect the Chuckwalla and Palen mountains. • Within a 1.5-mile-wide linkage across Interstate 10 to connect the Chuckwalla Mountains to the Chuckwalla Valley east of Desert Center. • The confluence of Milpitas Wash and Colorado River floodplain within 2 miles of California State Route 78 (this linkage is entirely within the Chuckwalla ACEC). <ul style="list-style-type: none"> • Delineate the boundaries of areas to be disturbed using temporary construction fencing and flagging prior to construction and confine disturbances, project vehicles, and equipment to the delineated project areas to protect vegetation types and focus and BLM Special Status Species. • Long-term nighttime lighting on project features will be limited to the minimum necessary for project security, safety, and compliance with Federal Aviation Administration requirements and will avoid the use of constant-burn lighting. • All long-term nighttime lighting will be directed away from riparian and wetland vegetation, occupied habitat, and suitable habitat areas for Focus and BLM Special Status Species. Long-term nighttime lighting will be directed and shielded downward to avoid interference with the navigation of night-migrating birds and to minimize the attraction of insects as well as insectivorous birds and bats to project infrastructure. • To the maximum extent practicable (see Glossary of Terms), restrict construction activity to existing roads, routes, and utility corridors to minimize the number and length/size of new roads, routes, disturbance, laydown, and borrow areas. • To the maximum extent practicable (see Glossary of Terms), confine vehicular traffic to designated open routes of travel to and from the project site, and prohibit, within project boundaries, cross-country vehicle and equipment use outside of approved designated work areas to prevent unnecessary ground and vegetation disturbance. 	

Number	Conservation Management Action	Resources Affected
	<ul style="list-style-type: none"> • To the maximum extent practicable (see Glossary of Terms), construction of new roads and/or routes will be avoided within Focus and BLM Special Status Species suitable habitat within identified linkages for those Focus and BLM Special Status Species, unless the new road and/or route is beneficial to minimize net impacts to natural or ecological resources of concern. These areas will have a goal of “no net gain” of project roads and/or routes • To the maximum extent practicable (see Glossary of Terms), any new road and/or route considered within Focus and BLM Special Status Species suitable habitat within identified linkages for those Focus and BLM Special Status Species will not be paved so as not to negatively affect the function of identified linkages. • Use nontoxic road sealants and soil stabilizing agents. 	
LUPA-BIO-PLANT-2	Implement an avoidance setback of 0.25 mile for all Focus and BLM Special Status Species occurrences. Setbacks will be placed strategically adjacent to occurrences to protect ecological processes necessary to support the plant Species (see Appendix Q, Baseline Biology Report, in the Proposed LUPA and Final EIS [2015], or the most recent data and modeling).	Vegetation, including Noxious and Non-native Invasive Species
LUPA-BIO-SVF-1	For activity-specific NEPA analysis, a map delineating potential sites and habitat assessment of the following special vegetation features is required: Yucca clones, creosote rings, Saguaro cactus, Joshua tree woodland, microphyll woodland, Crucifixion thorn stands. BLM guidelines for mapping/surveying cactus, yuccas, and succulents shall be followed.	Vegetation, including Noxious and Non-native Invasive Species
LUPA-BIO-SVF-6	Microphyll woodland: impacts to microphyll woodland (see Glossary of Terms) will be avoided, except for minor incursions (see Glossary of Terms).	Vegetation, including Noxious and Non-native Invasive Species
LUPA-BIO-VEG-1	Management of cactus, yucca, and other succulents will adhere to current up-to-date BLM policy.	Vegetation, including Noxious and Non-native Invasive Species
LUPA-BIO-VEG-2	Promote appropriate levels of dead and downed wood on the ground, outside of campground areas, to provide wildlife habitat, seed beds for vegetation establishment, and reduce soil erosion, as determined appropriate on an activity-specific basis.	Vegetation, including Noxious and Non-native Invasive Species
LUPA-BIO-IFS-9	Vehicular traffic will not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.	Wildlife, including Threatened and Endangered Species
LUPA-BIO-IFS-12	If burrowing owls are present, a designated biologist (see Glossary of Terms) will conduct appropriate activity-specific biological monitoring (see Glossary of Terms) to ensure avoidance of occupied burrows and establishment of the 656 feet (200 meter) setback to sufficiently minimize disturbance during the nesting period on all activity sites, when practical.	Wildlife, including Special Status Species

Number	Conservation Management Action	Resources Affected
LUPA-BIO-IFS-13	If burrows cannot be avoided on-site, passive burrow exclusion by a designated biologist (see Glossary of Terms) through the use of one-way doors will occur according to the specifications in Appendix D or the most up-to-date agency BLM or CDFW specifications. Before exclusion, there must be verification that burrows are empty as specified in Appendix D or the most up-to-date BLM or CDFW protocols. Confirmation that the burrow is not currently supporting nesting or fledgling activities is required prior to any burrow exclusions or excavations.	Wildlife, including Special Status Species
LUPA-BIO-IFS-14	Activity-specific active translocation of burrowing owls may be considered, in coordination with CDFW.	Wildlife, including Special Status Species
LUPA-BIO-IFS-24	Provide protection from loss and harassment of active golden eagle nests through the following actions: <ul style="list-style-type: none"> • Activities that may impact nesting golden eagles, will not be sited or constructed within 1-mile of any active or alternative golden eagle nest within an active golden eagle territory, as determined by BLM in coordination with USFWS as appropriate. 	Wildlife, including Migratory Birds and Special Status Species
LUPA-CTTM-7	Manage Recreation Facilities consistent with the objectives for the recreation management areas and facilities (see also Section II.4.2.1.10).	Recreation
LUPA-CUL-9	Promote DRECP desert vegetation types/communities by avoiding them where possible, then use required compensatory mitigation, off-site mitigation, and other means to ensure Native American vegetation collection areas and practices are maintained.	Vegetation; Cultural Resources
LUPA-CUL-11	Promote and protect desert microphyll woodland vegetation type/communities to ensure Native American cultural values are maintained.	Vegetation; Cultural Resources
LUPA-MIN-2	Existing authorized mineral/energy operations, including existing authorizations, modifications, extensions and amendments and their required terms and conditions, are designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims subject to valid existing rights. Amendments and expansions authorized after the signing of the DRECP LUPA ROD are subject to applicable CMAs, including ground disturbance caps within Ecological and Cultural Conservation Areas, subject to valid existing rights, subject to governing laws and regulations.	All Resources; Land Use Plan Conformance
LUPA-MIN-6	New or expanded mineral operations will be evaluated on a case-by-case basis, and authorizations are subject to LUPA requirements, and the governing laws and regulations.	All Resources; Land Use Plan Conformance
LUPA-SW-3	Where a seeming conflict between CMAs within or between resources arises, the CMA(s) resulting in the most resource protection apply.	All Resources
LUPA-SW-5	Exceptions to any of the specific soil and water stipulations contained in this section, as well as those listed below under the subheadings “Soil Resources,” “Surface Water,” and “Groundwater Resources,” may be granted by the authorized officer if the applicant submits a plan, or, for BLM-initiated actions, the BLM provides documentation, that demonstrates:	Water Resources

Number	Conservation Management Action	Resources Affected
	<ul style="list-style-type: none"> The impacts are minimal (e.g., no predicted aquifer drawdown beyond existing annual variability in basins where cumulative groundwater use is not above perennial yield and water tables are not currently trending downward) or can be adequately mitigated. 	
LUPA-SW-11	Where possible, side casting shall be avoided where road construction requires cut- and-fill procedures.	Water Resources
NLCS-CUL-1	Any adverse effects to historic properties resulting from allowable uses will be addressed through the Section 106 process of the National Historic Preservation Act and the implementing regulations at 36 CFR Part 800. Resolution of adverse effects will in part be addressed via alternative mitigation that includes regional synthesis and interpretation of existing archaeological data in addition to mitigation measures determined through the Section 106 consultation process.	Cultural Resources; National Conservation Lands
NLCS-MIN-2	For the purposes of locatable minerals, California Desert National Conservation Lands are treated as “controlled” or “limited” use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.	National Conservation Lands
NLCS-NSHT-12	Cultural Resources – Any adverse effects to historic properties resulting from allowable uses will be addressed through the Section 106 process of the National Historic Preservation Act and the implementing regulations at 36 CFR Part 800.	Cultural Resources; National Conservation Lands
ACEC-CUL-6	Where specific threats are identified, implement protection measures consistent with agency NHPA Section 106 responsibilities.	Cultural Resources; Areas of Critical Environmental Concern

In addition to the applicant-committed PDFs and CMAs, the following mitigation measures, as described below, would be required by the BLM. All of the mitigation measures described below would be fully supported and covered financially by SMP.

Table F-3: Required Mitigation Measures

Number	Mitigation Measure	Resources Affected	Effectiveness and Impacts of Mitigation
M-1	SMP would install exclusionary fencing around the access road to prevent desert tortoise crossings and collisions with individual species within the Tumco Wash.	Wildlife, Special Status Species	Exclusionary fencing would limit tortoise access to roads and prevent potential mortality. Exclusionary fencing is often used to control tortoises and limit access to potentially hazardous conditions (AIDTT 2008). The impacts associated with this mitigation include additional temporary disturbance associated with the fence. Fencing would be installed on the previously disturbed ROW to reduce impacts to vegetation and wildlife habitat. All disturbance would be reclaimed as described in Appendix E .
M-2	Notices would be posted on the BLM’s website and at designated recreational sites in the area	Noise, Recreation	The impacts associated with this mitigation include a potential decrease in the utilization of the Project Area and surrounding public

Number	Mitigation Measure	Resources Affected	Effectiveness and Impacts of Mitigation
	notifying the public of dates and times that drilling would occur, bringing a wareness to potential elevated levels of noise and activity in the Project Area during which time recreationalists may choose to visit locations outside of the Project Area.		land by recreationalists. Recreationalists may choose to use other public lands in the surrounding area.
M-3	Idling of all vehicles would be reduced to a minimum necessary for operational capacity.	Air Quality	Limiting idling would reduce overall emissions and therefore, reduce impacts to air quality and climate change.
M-4	The staging area would be stabilized during use using BLM approved methods, and staging area soils will be stabilized upon Project completion.	Air Quality, Soils	Stabilizing the staging area would reduce fugitive dust generation from loose soils and would reduce impacts from soil erosion.
M-5	A Cultural Monitoring and Inadvertent Discovery Plan will be prepared in consultation with the BLM ECFO archaeologist and implemented prior to conducting fieldwork. Any inadvertent cultural resources discovered during construction, operations and/or reclamation would require SMP to cease all work immediately and notify the BLM Authorized Officer. The BLM Authorized Officer would then evaluate the discovery in coordination with other consulting parties to determine and implement appropriate treatment, if necessary.	Cultural Resources	<u>Periodic monitoring would reduce impacts to known sites as well as any undocumented cultural sites or sensitive areas</u> identified. SMP would implement PDFs and mitigation measures to avoid and reduce impacts to cultural resources.
M-6	All known culturally sensitive areas within 100 feet of ground-disturbing activities and access roads will be safeguarded with periodic archaeological monitoring and possibly barrier fencing, in consultation with the BLM ECFO archaeologist,	Cultural Resources	Barrier fencing would reduce accidental impacts to culturally sensitive areas from personnel and equipment. The impacts associated with this mitigation include additional temporary disturbance associated with the barrier fencing. Fencing would be placed so as to avoid impacts to vegetation. All disturbance would be reclaimed as described in Appendix E .
M-7	Periodic archaeological monitoring (checking fencing, access routes, and drill pad locations, etc.) will be conducted by SMP's archaeological contractor (at least once every two weeks during drilling activities) in consultation with the BLM ECFO archaeologist.	Cultural Resources	Periodic monitoring would reduce impacts to known sites as well as any undocumented cultural sites or sensitive areas. If any previously undocumented sites are identified, SMP would implement PDFs and mitigation measures to avoid and reduce impacts to cultural resources.
M-8	Pre-construction vegetation surveys would be conducted prior to commencement of Project	Vegetation, Special Status Species	Barrier fencing would reduce accidental impacts to special status plant species from personnel and equipment. The impacts

Number	Mitigation Measure	Resources Affected	Effectiveness and Impacts of Mitigation
	<p>activities and would occur in tandem with the pre-construction migratory bird surveys described in the above PDFs (Table F-1). Should special status plant species be identified during Project activities, the BLM would require SMP to implement temporary barrier fencing around the individual plants for avoidance and to minimize impacts throughout the life of the Project.</p>		<p>associated with this mitigation include additional temporary disturbance associated with the barrier fencing. Fencing would be placed so as to avoid impacts to vegetation. All disturbance would be reclaimed as described in Appendix E.</p>
M-9	<p>Netting or other applicable barriers would be placed over inactive sumps during the evaporation process and prior to backfilling to prevent wildlife entrapment.</p>	Wildlife	<p>Netting would reduce wildlife entrapment and mortality from potential wildlife ingress to inactive sumps during the evaporation process post-drilling.</p>
M-10	<p>Minor incursions to microphyll woodland would be avoided or mitigated when construction the temporary portal access road.</p>	Vegetation, Special Status Species	<p>Avoidance of a minor incursion would prevent impacts to present microphyll woodlands from temporary surface disturbance for construction of the portal access road and reclamation of the road upon Project completion.</p>

Appendix G: Issues Considered as Part of the NEPA Analysis

Table G-1: Issues Considered

Determination	Issue	Rationale for Determination
PI	Air Quality	Resource is present and potentially affected; please refer to Section 3.3 for a detailed analysis.
PI	Areas of Critical Environmental Concern	Resource is present and potentially affected; please refer to Section 3.5 for a detailed analysis.
PI	Climate Change, including GHG Emissions	Resource is present and potentially affected; please refer to Section 3.6 for a detailed analysis.
PI	Conservation Lands	Resource is present and potentially affected; please refer to Section 3.7 for a detailed analysis.
PI	Cultural Resources	Resource is present and potentially affected; please refer to Section 3.8 for a detailed analysis.
PI	Environmental Justice	Resource is present and potentially affected; please refer to Section 3.10 for a detailed analysis.
NP	Farmlands (Prime or Unique)	No prime and unique farmlands are present within the Project Area; resource is not present and therefore not affected.
NI	Fire Management	Resource is present; however, there is minimal risk of fire from Project activities, and with the implementation of the PDFs, impacts would be minimized.
NP	Fish Habitat	No existing surface water other than ephemeral drainages within the Project Area; resource is not present and therefore not affected.
NP	Floodplains	No 100-year floodplains or wetlands exist within the Project Area; resource is not present and therefore not affected.
NP	Forests and Rangelands	Resource is not present and therefore not affected.
NP	Forestry Resources and Woodland Products	Resource is not present and therefore not affected.
NI	Human health and safety concerns	Drill support vehicles would occur along public BLM roads and the general public's access within the active drilling area would be temporarily limited; with the implementation of the PDFs, impacts would be minimized.
PI	Invasive, Non-native Species	Resource is present and potentially affected; please refer to Section 3.20 for a detailed analysis.
NP	Lands and Realty	No existing Right-of-Ways or land use authorizations occur within the Project Area; resource is not present and therefore not affected.
NP	Lands with Wilderness Characteristics	The Project Area is not within an area designated as Lands with Wilderness Characteristics; resource is not present and therefore not affected.
NP	Livestock Grazing Management	No rangelands or allotments are present within the Project Area; resource is not present and therefore not affected.
PI	Migratory birds and wildlife	Resource is present and potentially affected; please refer to Section 3.22 for a detailed analysis.

Determination	Issue	Rationale for Determination
NI	Mineral Resources	The Proposed Action would not involve the removal of large quantities of earth that may potentially lead to structural instability. A small amount of material would be removed from boreholes and would not affect potential mineral resources in the ground. Due to the short-term timeline of the Proposed Action and the small-scale surface disturbance for exploration activities, impacts to minerals are not anticipated; therefore, resource is present but not affected.
PI	Native American Religious Concerns	Resource is present and potentially affected; please refer to Section 3.14 for a detailed analysis.
PI	Noise Resources	Resource is present and potentially affected; please refer to Section 3.15 for a detailed analysis.
NI	Paleontological Resources	The Project Area has limited potential for fossil preservation in the colluvial sediments (Stantec 2022c); due to the short-term nature and the limited areas of impact from the Project, impacts to paleontological resources would not occur.
PI	Recreation Resources	Resource is present and potentially affected; please refer to Section 3.17 for a detailed analysis.
NP	Sage Grouse Habitat	There are no sage-grouse populations within or nearby the Project Area; resource is not present and therefore not affected.
NI	Socioeconomics	Due to the short-term and small-scale nature of exploration activities and the remote area of the Project, impacts to socioeconomic values would not occur other than a net social and economic benefit from employment opportunities related to the Project. Temporary drilling crews would be on-site at the Project during exploration operations; employees may stay temporarily on-site or off-site in the nearby communities of Winterhaven, California, El Centro, California, or Yuma, Arizona. The Proposed Action is unlikely to increase demand for short-term housing in the area or noticeably increase demand for public or private services. The Project may stimulate minor, temporary economic activity in nearby communities within Imperial County, California or in Yuma, Arizona; however, other socioeconomic impacts have not been identified and therefore socioeconomics is present but not affected.
PI	Soils	Resource is present and potentially affected; please refer to Section 3.18 for a detailed analysis.
PI	Threatened, Endangered or Candidate Plant or Animal Species	Resource is present and potentially affected; please refer to Section 3.23 for a detailed analysis.
PI	Travel and Transportation	Resource is present and potentially affected; please refer to Section 3.19 for a detailed analysis.
PI	Vegetation	Resource is present and potentially affected; please refer to Section 3.20 for a detailed analysis.
PI	Visual Resources	Resource is present and potentially affected; please refer to Section 3.21 for a detailed analysis.

Determination	Issue	Rationale for Determination
NI	Wastes, Hazardous or Solid	No hazardous substances would be used in the drilling program so no hazardous waste would be generated by the Project; with the implementation of PDFs and BMPs, impacts would be minimized.
PI	Water	Resource is present and potentially affected; please refer to Section 3.22 for a detailed analysis.
NP	Wetlands/Riparian Zones	No wetlands or riparian zones are present within the Project Area; resource not present and therefore not affected.
NP	Wild Horses and Burros	The Project Area is not located within a Herd Management Area; resource not present and therefore not affected.
NP	Wild and Scenic Rivers	The Project is not within one mile of a designated Wild and Scenic River; resource not present and therefore not affected.
NP	Wilderness and Wilderness Study Areas	The Project Area is not located within a designated wilderness area or wilderness study area; resource not present and therefore not affected.
PI	Wildlife	Resource is present and potentially affected; please refer to Section 3.23 for a detailed analysis.

NP = not present in the area impacted by the proposed or alternative actions.

NI = present, but not affected to a degree that detailed analysis is required.

PI = present and may be impacted to some degree; detailed analysis required.

Appendix H: Visual Contrast Rating Worksheets

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

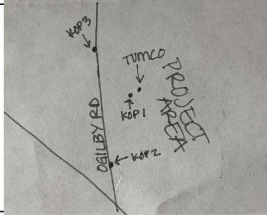
Date: 07/18/2022

District Office: California Desert District

Field Office: El Centro

Land Use Planning Area:

SECTION A. PROJECT INFORMATION

1. Project Name Oro Cruz Exploration Project	4. KOP Location (T.R.S) T15S, R20E, S2 SWSE	5. Location Sketch 
2. Key Observation Point (KOP) Name KOP 1 - Tumco Parking Lot/Kiosk Area	(Lat. Long) 32.8809, -114.8326	
3. VRM Class at Project Location Class III & IV		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Rugged, defined, circular rough rocks MG: Rugged to smooth, domed to flat BG: Jagged, rough, low to tall	FG: Sparse to clustered, irregular MG: Sparse clustered irregular BG: Indistinct	MG: Vertical and horizontal, short, linear, regular
LINE	FG: Irregular, horizontal, curving MG: horizontal, curving, jagged, diverging BG: angular, undulating, irregular	FG: Diffuse, broken, jagged, clumped MG: Diffuse, broken, indistinct in far MG BG: Indistinct	MG: Bold, perpendicular and parallel to land, simple, straight, broken posts and gate, polygon BLM sign
COLOR	FG: tan, light brown, gray, green MG: tan, brown, gray-brown BG: dark brown-gray, blue, luminous	FG: Green, brownish green, brown MG: Green, to brown, indistinct BG: Indistinct	MG: Dark brown, white writing on sign, monotone, saturated
TEXTURE	FG: Medium/coarse, clumped to stippled MG: Medium density, stippled to granular, BG: Coarse to fine, directional, contrasty	FG: Coarse, patchy to clumped, sparse MG: Coarse to fine, clumped to scattered BG: Indistinct	MG: Coarse grain, uniform distribution, ordered spatially

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	BG: Solid contrasting linear forms, irregular	BG: Contrasting, void	BG: Drilling equipment may appear as tall, linear forms; vehicles and helicopters may appear contrasting geometric forms
LINE	BG: Horizontal features against void soil disturbance	BG: Irregular, void, indistinct from vegetation removal/soil disturbance	BG: Vertical, irregular and horizontal, indistinct
COLOR	BG: Lighter exposed soils, dark drill pads and equipment against hillsides	BG: Void if vegetation is disturbed through exploration; colored where reclaimed with native reseeding	BG: Reflective, opposing colors, dark
TEXTURE	BG: Smoother, exposed soils	BG: Smooth, sparse, void, but likely indistinct from a distance	BG: Dotted, uniform, directional

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side) 3. Additional mitigating measures recommended ___ Yes <input checked="" type="checkbox"/> No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
		FORM		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		
		LINE		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		
COLOR		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
TEXTURE		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
ELEMENTS													Evaluator's Names Gianni Giuliano Shelby Hockaday	Date 07/18/2022

SECTION D. (Continued)

Comments from item 2.

VRM Class III allows for moderate changes to the characteristic landscape. The distance between the KOP and the proposed Project, approximately facing Drill Areas 2, 3, and 5 is less than one mile away; however, it is anticipated that the mountainous topography of the area would prevent much of the Project from being visible. How far disturbance occurs vertically up the mountains in the background would dictate the amount of disturbance that may be seen. Assuming disturbance occurs at higher elevations along the mountainsides or lower within the valleys/canyons of the drill areas, the degree of contrast for form, line, color and texture to land/water, vegetation, and structures has been recorded as weak. It is possible that the degree of contrast would be none if disturbance occurs lower in the valleys behind the mountains directly in front of KOP 1. Project activities may attract attention from the public due to their distance from KOP 1 and the potential visibility of recreationalists/tourists visiting the historic Tumco walking area; however, drilling equipment, drill pad construction, and vehicles traveling on access roads would have weak to indistinct contrast. A helicopter may be visible for short periods of time traveling from Drill Area 1 to Drill Areas 3 and 5, but would likely not be visible traveling to Drill Area 2 from the viewpoint of KOP 1. All visual contrast would be temporary during exploration activities and would not be constant within either Drill Areas 2, 3 or 5 or along the access roads during the life of the Project.

VRM Class IV allows for major changes to the landscape. The proposed Project is not anticipated to result in major changes to the landscape.

Additional Mitigating Measures (See item 3)

No mitigation measures are suggested at this time. If necessary, the Proponent would coordinate with the BLM to determine additional mitigation measures.

KOP 1 – Tumco Parking Lot/Kiosk Area



UNITED STATES
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VISUAL CONTRAST RATING WORKSHEET

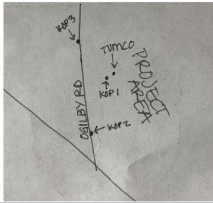
Date: 07/18/2022

District Office: California Desert District

Field Office: El Centro

Land Use Planning Area:

SECTION A. PROJECT INFORMATION

1. Project Name Oro Cruz Exploration Project	4. KOP Location (T.R.S) T15S, R20E, S14 SESW	5. Location Sketch 
2. Key Observation Point (KOP) Name KOP 2 - Pullout traveling north on Ogilby Road	(Lat. Long) 32.8525, -114.8383	
3. VRM Class at Project Location Class III & IV		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, low, wide, circular round rocks MG: Low, linear to curving BG: Jagged, rough, irregular	FG: Prominent, dense irregular clusters MG: Definite to indistinct dense clusters BG: Indistinct	No structures are visible in the existing landscape
LINE	FG: weak curving lines in gravel MG: horizontal, parallel soft dirt road BG: Jagged, angular, complex to faint	FG: Irregular, perpendicular, diagonal MG: Irregular, perpendicular to horizontal BG: Indistinct	
COLOR	FG: Tan, grayish brown MG: Tan, grayish brown, light brown BG: gray to dark brown, blue, luminous	FG: Green, tan, brown MG: Green, brown to coppery BG: Indistinct	
TEXTURE	FG: fine to medium, uneven, dotted MG: medium to smooth, scatter, indistinct BG: Directional, striated, rough to smooth	FG: Coarse, clumped to sparse MG: Coarse to smooth, slight gradation BG: Indistinct	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	BG: Solid contrasting linear forms, irregular, faint	BG: Contrasting, void, indistinct	BG: Drilling equipment may appear as tall, linear forms; vehicles and helicopters may appear contrasting geometric forms
LINE	BG: Horizontal features against void soil disturbance	BG: Irregular, void, indistinct from vegetation removal and soil disturbance from distance	BG: Vertical, irregular and horizontal, to indistinct
COLOR	BG: Lighter exposed soils, dark drill pads, equipment against/atop hillsides, contrasting vehicle traffic on access road	BG: Void if vegetation is disturbed in locations visible from KOP, colored where reclaimed with native reseeding	BG: Reflective opposing colors, dark
TEXTURE	BG: Smoother, exposed soils but weak/faint	BG: Smooth, sparse, void, likely indistinct from distance	BG: Dotted, uniform, directional

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
ELEMENTS	FORM			✓				✓				✓		3. Additional mitigating measures recommended ___ Yes <input checked="" type="checkbox"/> No (Explain on reverses side)
	LINE			✓				✓				✓		
	COLOR			✓				✓				✓		
	TEXTURE			✓				✓				✓		
												Evaluator's Names Date Gianni Giuliano 07/18/2022 Shelby Hockaday		

SECTION D. (Continued)

Comments from item 2.

VRM Class III allows for moderate changes to the characteristic landscape. KOP 2 is approximately two miles away from the proposed Project, specifically Drill Area 6 at the south end of the Project Area. It is anticipated that much of the Project would not be visible from this KOP due to the mountainous topography and proposed Project layout; however, some drilling equipment may be faintly visible in the far background atop/against the mountains and a helicopter may be temporarily visible during travel to Drill Area 6. How far disturbance occurs vertically up the mountains in the background would dictate the amount of disturbance that may be seen from KOP 2. Assuming disturbance occurs at higher elevation along the backsides of the mountains visible from this KOP, and potentially atop or along the front sides of the mountains, and lower valleys/canyons within the drill areas, the degree of contrast for form, line, color, and texture to land/water, vegetation, and structures has been recorded as weak. It is possible that the degree of contrast would be none if disturbance occurs lower in the valleys behind the face of the mountains directly in front of KOP 2. Project activities may attract attention from the public due to their distance from KOP 1, however, drilling equipment, drill pad construction, and vehicles traveling on the access road would have weak to indistinct contrast. All visual contrast would be temporary during exploration activities and would not be constant within Drill Area 6 or along the access roads during the life of the Project.

VRM Class IV allows for major changes to the landscape. The proposed Project is not anticipated to result in major changes to the landscape.

Additional Mitigating Measures (See item 3)

No mitigation measures are suggested at this time. If necessary, the Proponent would coordinate with the BLM to determine additional mitigation measures.

KOP 2 – Pullout Traveling North on Ogilby Road



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VISUAL CONTRAST RATING WORKSHEET

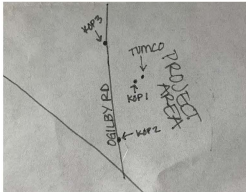
Date: 07/18/2022

District Office: California Desert District

Field Office: El Centro

Land Use Planning Area:

SECTION A. PROJECT INFORMATION

1. Project Name Oro Cruz Exploration Project	4. KOP Location (T.R.S) T15S, R20E, S2 SENW	5. Location Sketch 
2. Key Observation Point (KOP) Name KOP 3 - Pullout traveling south on Ogilby Road		
3. VRM Class at Project Location Class III & IV	(Lat. Long) 32.8895, -114.8391	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, linear road, parallel soil edges MG: Rough to smooth, flat, wide BG: irregular to smooth, indistinct	FG: Simple, vertical to complex shrubs MG: Sparse to amorphous BG: Indistinct	MG: Tall, linear narrow power poles with diagonal supports
LINE	FG: Linear, horizontal, straight, bold MG: Soft, weak converging soil lines BG: Angular jagged mts to smooth sky	FG: Bold to weak, subangular to smooth MG: Irregular, soft to weak BG: Indistinct	MG: Vertical, straight, simple
COLOR	FG: Gray, yellow, tan, black MG: Tan, brownish gray BG: Gray, black, brown, blue, luminous	FG: Green, brown to olive green MG: Greenish brown to indistinct, weak BG: Indistinct	MG: dark hue contrasted with background, monochrome
TEXTURE	FG: Fine to medium, cracked, rough soils MG: Gradational, coarse to smooth BG: Jagged rough mts to smooth sky	FG: Sparse to clustered/dense MG: Medium grain, low contrast, uneven BG: Indistinct	MG: Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	BG: Solid contrasting linear forms, irregular and weak	BG: Contrasting, void, indistinct	BG: Drilling equipment may appear tall, linear forms in the far BG, vehicles & helicopters may appear contrasting
LINE	BG: Horizontal and vertical features against void soil disturbance	BG: Irregular, void, indistinct from vegetation removal/soil disturbance	BG: Vertical, irregular and horizontal, indistinct, visibility would be faint
COLOR	BG: lighter exposed soils but faint, dark drill pads and equipment faint against hillsides	BG: Void if vegetation is disturbed but would be very faint; colored and uniform where reclaimed with native reseeding	BG: Reflective, opposing colors, faint
TEXTURE	BG: smoother, exposed soils, irregular	BG: smooth, sparse, void, likely indistinct in far BG	BG: Dotted, uniform, directional, indistinct

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverses side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM			✓				✓					✓	3. Additional mitigating measures recommended ___ Yes <input checked="" type="checkbox"/> No (Explain on reverses side)	
	LINE			✓				✓					✓		
	COLOR			✓				✓					✓		
	TEXTURE			✓				✓					✓		
														Evaluator's Names Gianni Giuliano Shelby Hockaday	Date 07/18/2022

SECTION D. (Continued)

Comments from item 2.

VRM Class III allows for moderate changes to the characteristic landscape. The distance between the KOP and the proposed Project, approximately facing Drill Area 3 is approximately one mile away. It is anticipated that the mountainous topography and the direction of the KOP facing the Project Area with tall vegetation in the foreground to middleground would prevent much of the Project from being visible. How far disturbance occurs vertically up the mountains into the background would dictate the amount of disturbance that may be seen, and much of the proposed disturbance would likely occur behind the face of the mountains that is not visible from KOP 3. Assuming disturbance occurs at higher elevations along the mountainsides or lower within the valleys/canyons of the drill areas, behind the face of the mountains visible from KOP 3, the degree of contrast for form, line, color, and texture to land/water, vegetation, and structures has been recorded as weak. It is possible that the degree of contrast would be none if disturbance occurs lower in the valleys or along the backside of the mountains as anticipated rather than along the mountain edges visible from KOP 3. Project activities may attract attention from the public due to their distance from KOP 3 and the potential visibility by travelers driving on Ogilby Road; however, drilling equipment, drill pad construction, and vehicles traveling on access roads would have weak to indistinct contrast. A helicopter may be visible for short periods of time traveling from Drill Area 1 to Drill Area 3, but would be temporary and inconsistent. All visual contrast would be temporary during exploration activities and would not be constant within all drill areas, including Drill Area 3 that has the potential to be visible from KOP 3, or along the access roads during the life of the Project.

VRM Class IV allows for major changes to the landscape. The proposed Project is not anticipated to result in major changes to the landscape.

Additional Mitigating Measures (See item 3)

No mitigation measures are suggested at this time. If necessary, the Proponent would coordinate with the BLM to determine additional mitigation measures.

KOP 3 – Pullout Traveling South on Ogilby Road



Appendix I: Public Comments and Responses

Oro Cruz Exploration Project EA/MND Public Comments and Responses

Letter ID #	Comment ID #	Name/Entity	Comment	Response
1.0	1.1	<ul style="list-style-type: none"> • Ah-Mut Pipa Foundation • Center for Biological Diversity • California Mining Organizer (Earthworks) • Sierra Club California/Nevada Desert Committee 	<p>Dear Ms. Martinez,</p> <p>We are writing to request a 45-day extension of the public comment period for the SMP Gold Corp Oro Cruz Exploration Project. Given that the current comment period closing December 16th overlaps with the Thanksgiving holiday, and given the length of the EA (578 pages), an extension to January 30th will be necessary to ensure adequate time for the public to review and comment on the project.</p> <p>Thank you for your consideration</p>	<p>Thank you for your comment. As stated by the BLM in an email response to the commenters on November 30, 2022, after review and consideration of the request, the BLM adhered to the public comment schedule as originally posted but please be advised, extra timing was considered and included within the deadline due to the Thanksgiving holiday.</p>
2.0	2.1	Individual	<p>I appreciate the diligent work involved in preparing this comprehensive EA.</p> <p>I am very concerned about the potential adverse impacts on the ESA threatened Mojave desert tortoises and other native wildlife species.</p>	<p>Thank you for your comment. Per the analysis in Section 3.23.3 of the EA/MND, impacts to threatened and endangered species (including Mojave Desert tortoise), special status species, and general wildlife species are anticipated to be negligible to minor, short-term, and localized. Several Project Design Features (PDFs) have been developed by the proponent for implementation during the Project to minimize impacts. Additional wildlife-specific mitigation measures would be required for implementation by the BLM, as outlined in Appendix F of the EA/MND. Mitigation measures include monitoring of project activities by a BLM-approved Authorized or Qualified Biologist to ensure no desert tortoises are killed or burrows crushed, and project staff are compliant with tortoise best practices. Project activities would be monitored throughout the life of the Project to avoid potential impacts to Mojave Desert tortoise habitat. SMP would designate a Field Contact Representative (FCR) who would be responsible for overseeing compliance with protective stipulations for desert tortoise habitat, and for compliance coordination with the BLM. The FCR would be a BLM-approved Authorized or Qualified Biologist on-site year-round throughout the life of the Project in order to implement all tortoise-related PDFs to minimize impacts. The FCR would be an on-site compliance monitor for all aspects of the Project, and should desert tortoise be detected, the FCR would contact the BLM.</p>
2.0	2.2	Individual	<p>I am also concerned about potential harm to those resources that were intended for protection under the ACEC designation.</p>	<p>As stated in Section 3.5.3 of the EA/MND, the Project would avoid the resources that the Picacho ACEC was designated to protect, including biological and cultural resources. Additional Conservation Management Actions (CMAs) and mitigation measures would be required by the BLM to minimize impacts, as outlined in Appendix F of the EA/MND. Impacts to the Picacho ACEC would be negligible, short-term, and localized.</p>
2.0	2.3	Individual	<p>BLM has an unreliable track record when it comes to approving mining operations and then preventing environmental damage from those operations.</p>	<p>The proposed Project would entail construction, operation, and reclamation of mineral exploration drilling activities. Per 3809.401(d), an operator must submit a reclamation cost estimate at a time specified by the BLM. The BLM will coordinate with the proponent for submittal of the reclamation cost estimate</p>

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			<p>Some mining companies go bankrupt or otherwise default on their obligations. This leaves the public with the significant costs of cleaning up toxic wastes and land reclamation. BLM could require companies to post adequate bonds to cover such costs but often improperly fails to do so.</p> <p>History has repeatedly shown that environmental promises in final BLM NEPA and decision documents are not always kept. Words on paper don't always translate into tangible actions.</p> <p>How can BLM ensure the public that this specific mining would be different?</p>	<p>accordingly and will review the estimate to ensure it meets the federal requirements found at 3809.552. The BLM will request a revised estimate if any deficiencies are found or if additional information must be submitted in order to determine a final reclamation cost. The BLM will notify the Project proponent when it has determined the final amount. Project operations must not begin until the BLM issues a decision approving a Plan of Operations and a financial guarantee has been provided (3809.412). The BLM will further coordinate with Imperial County (the SMARA lead) as to which agency will hold the bond.</p> <p>Furthermore, the Project would be in conformance with all federal and state land use plans as described in Chapter 1 of the EA/MND, and the BLM would require mitigation measures be implemented in addition to the PDFs committed to by the proponent to minimize environmental impacts to present resources, as included in Appendix F of the EA/MND.</p>
2.0	2.4	Individual	<p>What are the real risks of harm to tortoises and the ACEC?</p>	<p>Per the analysis in Section 3.23.3 and Section 3.5.3 of the EA/MND, which analyze impacts to threatened and endangered species (including Mojave desert tortoise) and impacts to the Picacho ACEC, respectively, impacts to desert tortoise and the ACEC under the Proposed Action would be negligible, short-term, and localized. Several PDFs have been developed by the proponent for implementation during the Project to minimize impacts. Additional wildlife-specific mitigation measures would be required for implementation by the BLM, as outlined in Appendix F of the EA/MND. Furthermore, the BLM has engaged in consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise. The BLM further consulted with the USFWS on appropriate mitigation measures to be implemented under the Proposed Action to minimize impacts to Mojave Desert tortoise pursuant to requirements under the 2017 Programmatic Biological Opinion for activities in the California Desert Conservation Area. The USFWS did not request additional measures to be implemented in addition to the PDFs committed to by SMP, the CMAs required under the DRECP LUPA, or the BLM-required mitigation measures, all included in Appendix F of the EA/MND.</p>
2.0	2.5	Individual	<p>Will a sufficient bond be required as a condition of approval?</p> <p>Thanks for considering my comments.</p>	<p>Should the Proposed Action be approved, the proponent would coordinate with the BLM and Imperial County to ensure a sufficient bond is in place for construction, operations, and reclamation for the Project. Development and approval of the bond is outside the scope of the NEPA and CEQA analysis in this EA/MND.</p>
3.0	3.1	Individual	<p>Kudos to BLM for this very comprehensive and informative EA.</p> <p>I appreciate the diligent and professional work that went into preparing it.</p>	<p>Thank you for your comment and support of the mitigation measures proposed. Per the analysis in Section 3.23.3 of the EA/MND for threatened and endangered species and per the PDFs, CMAs, and additional BLM-required mitigation</p>

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			<p>My primary concern is any potential harm to ESA threatened Mojave desert tortoises. Despite ESA listing in 1990, most tortoise populations continue to rapidly decline.</p> <p>I support the EA measures to protect tortoises. I hope BLM will carefully monitor work activities to ensure these measures are being fully implemented. If tortoise habitats are destroyed, there should be effective mitigation.</p> <p>I care about tortoises and I ask BLM to do a better job of protecting them.</p> <p>Thank you very much for your consideration.</p>	<p>measures included in Appendix F of the EA/MND, impacts to Mojave Desert tortoise under the Proposed Action would be minor, short-term, and localized. Mitigation measures include monitoring of project activities by a BLM-approved Authorized or Qualified Biologist to ensure no desert tortoises are killed or burrows crushed, and project staff are compliant with tortoise best practices. Project activities would be monitored throughout the life of the Project to avoid potential impacts to Mojave Desert tortoise habitat. SMP would designate an FCR who would be responsible for overseeing compliance with protective stipulations for desert tortoise habitat, and for compliance coordination with the BLM. The FCR would be a BLM-approved Authorized or Qualified Biologist on-site year-round throughout the life of the Project in order to implement all tortoise-related PDFs to minimize impacts. The FCR would be an on-site compliance monitor for all aspects of the Project, and should desert tortoise be detected, the FCR would contact the BLM.</p>
4.0	4.1	Desert Tortoise Council	<p>RE: Oro Cruz Exploration Project Environmental Assessment (DOI-BLM-CA-D070-2022-0012-EA; IS #21-0029)</p> <p>Dear Ms. Martinez, Ms. Sahagun, and Mr. Abraham,</p> <p>The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.</p> <p>As of June 2022, our mailing address has changed to:</p> <p style="padding-left: 40px;">Desert Tortoise Council 3807 Sierra Highway #6-4514 Acton, CA 93510</p> <p>Our email address has not changed. Both our physical and email addresses are provided above in our letterhead for your use when providing future correspondence to us. When given a choice, we prefer that the Bureau of Land Management (BLM) and Imperial County Planning Department (ICPD) email to us future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an “environmentally friendlier way” of receiving correspondence and documents rather than “snail mail.”</p>	<p>Thank you for your comments. The BLM has taken note of Desert Tortoise Council's email correspondence preference and mailing address change for the interested parties list.</p>

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4.0	4.2	Desert Tortoise Council	<p>We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats known to be occupied by Mojave desert tortoise (<i>Gopherus agassizii</i>) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities funded, authorized, or carried out by the BLM and authorized by ICPD, which we assume will be added to the Decision Record for this project as needed. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.</p> <p>The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), as it is a "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), population size fewer than 50 individuals, other factors." It is one of three turtle and tortoise species in the United States to be critically endangered. This status, in part, prompted the Council to join Defenders of Wildlife and Desert Tortoise Preserve Committee (Desert Tortoise Council 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from threatened to endangered in California.</p> <p>The BLM's press release indicates, "SMP Gold Corp. [Proponent] has submitted a Plan of Operations (Plan) to conduct exploratory drilling activities at the Oro Cruz historic mining area located in the Cargo Muchacho Mountains in eastern Imperial County, California. The BLM will analyze the proposed project and either approve, approve with conditions, or deny the Plan. The proposed project includes approximately two miles of existing road improvements and construction of 6.2 miles of new roads, up to eight helicopter landing pads, 65 drill pads, and a 2.8 acre staging area. The proposed exploration activities would occur within the Picacho Area of Critical Environmental Concern, approximately seven miles north of Ogilby. The surface disturbance on BLM-managed land from the proposed exploration activities is approximately 20.5 acres. Environmental Analysis of this project will include publication of a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document. The BLM is the lead for compliance with the NEPA and Imperial County is the lead for CEQA."</p> <p>Unless otherwise noted, referenced page numbers below refer to the November 2022, "Environmental Assessment/Mitigated Negative Declaration (EA/MND) Oro Cruz Exploration Project."</p> <p>We note on page 2, "Pursuant to requirements under CEQA and the California Surface Mining and Reclamation Act of 1975 (SMARA) for projects that would entail over one acre of surface disturbance, a Reclamation Plan is also required to address the reclamation activities that would be</p>	<p>Thank you for providing the additional reference literature from Abella and Berry (2016) for consideration. The Plan of Operations, associated Reclamation Plan, and EA/MND have been prepared using the best available literature, data, and resources that are relevant to the activities proposed under the Proposed Action and the Project Area itself.</p>

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			undertaken following completion of the proposed exploratory drilling activities.” We would like to offer a document for your use (Abella and Berry 2016), entitled “Enhancing and restoring habitat for the desert tortoise (<i>Gopherus agassizii</i>)” that identifies best management practices to facilitate success of restoration activities in arid environments.	
4.0	4.3	Desert Tortoise Council	We note in the above description and on page 5 that the Proponent intends on “...constructing approximately 6.2 miles of new, temporary 12-foot-wide exploration drilling access roads” and the “...exact location of proposed surface disturbance may change based on exploration results as exploration operations progress; therefore, the full extent of the disturbance locations has not been defined,” which we interpret to mean that even more roads may be created that could result in more than the 20.5 acres of disturbance. Although the project is identified as exploratory in nature, is it true that the eventual mine is a foregone conclusion? Either way, will there be a future EA that covers development of the mine, which is connected to exploratory activities, but likely to be a much larger impact? These questions should be answered in the EA and decision document.	The proposed surface disturbance for temporary drilling access roads and drill sites is included in the total surface disturbance calculation of 20.54 acres. While the exact locations of drill sites are flexible within the Plan boundary as well as the associated temporary access roads, the acres of surface disturbance for such would be within the 20.54-acre surface disturbance total analyzed in the EA/MND, per the activities outlined in Table 2-1 of the EA/MND. This EA/MND analyzes only the proposed exploratory drilling activities associated with the Oro Cruz Exploration Project. Any future proposed additional surface disturbance and/or project plans outside of the current analysis would be subject to individual future NEPA analysis at a level deemed appropriate by the BLM.
4.0	4.4	Desert Tortoise Council	We question the Proponent’s need to create so many linear miles of new temporary roads and ask that, if not already, the BLM geologist work with the Proponent to reassess the locations of existing roads and insofar as possible restrict travel to those roads. Alternatively, the Proponent utilizing experienced tortoise biologist(s), could travel cross-country to drill sites without creating roads that will predictably be used by the public and may not ever be needed again for future mining activities. We strongly recommend that these temporary roads not be bladed with heavy equipment across our public lands; it will be very difficult to remove them from public use and restored to their previous condition after their construction. We also ask that if the number of linear miles cited in the EA is met, that the Proponent be required to consult with the BLM before any additional roads are created. So, even though “...the full extent of the disturbance locations has not been defined,” there must be some BLM-imposed limit, a cap, to these undefined impacts by the Proponent.	Road improvements to existing access roads would be bladed and cleared of vegetation, and road construction would be conducted using a bulldozer; however, access roads within each Drill Area for access to drill sites would be reclaimed and re-seeded concurrently throughout the life of the Project. Cross country travel was not considered due to the severity of the terrain in the area; the equipment that would be utilizing the cross country routes is large and could not be maneuvered in a safe manner without an established road. Increased damage to the landscape would also be caused by the volume of traffic using the cross-country route, vehicles would not follow the same path every time and eventually several makeshift “roads” would be established. Therefore, road improvements to existing roads and the creation of new temporary exploration access roads are necessary to provide safe access to the Project. As stated in the analysis under Section 3.19.3 of the EA/MND, access roads would be used strictly for Project support vehicles to access the exploration Drill Areas and limited access signs and safety barriers would be erected. Reclamation actions would be closely coordinated with the BLM and a Reclamation Plan is under review for approval by Imperial County and the Division of Mine Reclamation in accordance with the Surface Mining and Reclamation Act. Areas disturbed would be reclaimed for pre-Project disturbance existing land uses. The extent of additional roads is calculated within the disturbance acres in each drill area as noted in Table 2-1 of the EA/MND; surface disturbance would not exceed the total proposed 20.54 acres.
4.0	4.5	Desert Tortoise Council	We question the math used to derive the acreages of impact predicted for “New Access Roads (Temporary and Permanent),” which is given as 3.32 acres in Table 2-1. We note that 6.2 linear miles of 12-foot-wide temporary roads equals 9.01 acres ($6.2 \times 5,280 \times 12 = 392,832/43,560$	Thank you for pointing out the discrepancy in acreage calculations within Table 2-1. The table mistakenly labeled the approximately 3.3 acres for new access roads as temporary and permanent; however, the acreages for the proposed 6.2

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			<p>ft²/acre = 9.01 acres) and 1.8 miles of 15-foot-wide permanent roads = 3.27 acres (1.8 x 5,280 x 15 = 142,560/43,560 ft²/acre = 3.27 acres), for a total of 12.28 acres, not 3.32 acres as given in Table 2-1 on page 5. These calculations need to be reconsidered and published in the record of decision or another subsequent BLM document. We note that the total impact of 20.5 acres will likely need to be changed throughout this and subsequent documents.</p>	<p>miles of temporary, non-consecutive access roads within each drill area was already included within the surface disturbance totals for each respective drill area where temporary drill site access roads would be required. The table has been revised and a footnote noting the inclusion of the temporary access road acreages within the drill area disturbance acreages has been included. The total surface disturbance under the Proposed Action would be 20.54 as analyzed throughout the EA/MND. Permanent disturbance is not anticipated from access road construction proposed under the Proposed Action. While the EA/MND previously noted that a permanent access road would be constructed for access to the Project Area from the south through to Drill Area 1 for access to the underground Oro Cruz Mine Portal, the text of the EA/MND has been revised to clarify that the new access road would be fully reclaimed following BLM policy within five years from Project implementation (i.e., the total life of the Project).</p>
4.0	4.6	Desert Tortoise Council	<p>Furthermore, we question the BLM/ICPD's assertion that these roads will be "temporary." We note on page 5 that "Roads and drill sites would be reclaimed using a bulldozer and/or CAT excavator or equivalent," which is similar to the machinery to be used to create the roads. Given the persistence of even a single pass by Patton-era tanks over this same area of the desert in the 1940s, we expect that these "temporary" roads will create "permanent" impacts that no additional use of heavy equipment will eradicate. We request that the permanent direct impacts of these roads and the indirect impacts to the tortoise and tortoise habitat be fully mitigated and the mitigation be monitored for effectiveness. Please see our April 4 comment letter regarding this issue¹.</p> <p>¹https://www.dropbox.com/s/u2acfv33q9vsfvt/EI%20Centro%20Mining%20Exploration.4-3-2022.pdf?dl=0</p>	<p>Permanent disturbance is not anticipated from access road construction proposed under the Proposed Action. While the EA/MND previously noted that a permanent access road would be constructed for access to the Project Area from the south through to Drill Area 1 for access to the underground Oro Cruz Mine Portal, the text of the EA/MND has been revised to clarify that the new access road would be fully reclaimed following BLM policy upon completion of underground exploration activities. Temporary access roads within each drill area for access to drill sites would be reclaimed and re-seeded concurrently throughout the life of the Project. Reclamation actions would be closely coordinated with the BLM and a Reclamation Plan is under review for approval by Imperial County and the Division of Mine Reclamation in accordance with the Surface Mining and Reclamation Act. Furthermore, per the analysis in Section 3.23.3 of the EA/MND for threatened and endangered species and per the PDFs, CMAs, and additional BLM-required mitigation measures included in Appendix F of the EA/MND, impacts to Mojave Desert tortoise under the Proposed Action would be minor, short-term, and localized. Areas disturbed would be reclaimed for pre-Project disturbance existing land uses.</p>
4.0	4.7	Desert Tortoise Council	<p>On page 9, we read the following: "Roads not needed for post-closure access would be reclaimed. The abandoned road surfaces would be scarified by ripping, if necessary. Where necessary, rock or earthen berms and water bars would be placed to prevent vehicular access and reduce erosion." We strongly discourage the use of heavy equipment for "ripping, if necessary," as such treatment of these "temporary" roads will predictably create more disturbance than they will eliminate. Where necessary, the interface between existing roads and temporary roads should be camouflaged with vertical mulching or other appropriate methods. We also provide for your use Abella and Berry (2016²), which present best management practices for revegetation in arid habitats.</p> <p>²https://www.dropbox.com/s/nx1b5m2b5ehya12/%23Abella%20and%20Berry%202016.pdf?dl=0</p>	<p>The text of the EA/MND under Section 2.1.2 and the Reclamation Plan that is currently under review by Imperial County has been revised to remove "The abandoned road surfaces would be scarified by ripping, if necessary". Additionally, the Section 2.1.2 of the EA/MND and the Reclamation Plan has been revised to include the following text: "The interface between existing roads and the proposed temporary access roads would be camouflaged with vertical mulching".</p>

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4.0	4.8	Desert Tortoise Council	<p>We strongly oppose the italicized wording in the following sentence given at the top of page 100: “Project activities would be monitored throughout the life of the Project to avoid potential impacts to Mojave Desert tortoise habitat, <i>should Project activities be conducted during the Mojave Desert tortoise active season (March 15 through November 1).</i>” The implication here is that activities would not be monitored from November 1 through March 15, which we strongly oppose and is not supported by scientific research. Although adult tortoises are typically less active during this time of year, they are not <i>inactive</i>; both adult tortoises and particularly juvenile tortoises may be active on warmer days and definitely during rainy days.</p> <p>Additionally, biological monitors are responsible to monitor <i>all</i> construction activities, including those that are not related to tortoise activities, such as maintaining litter-free conditions, containing all construction impacts within designated areas, and educating new construction workers as they enter the site. Also, who will be on hand to move a tortoise from harm’s way if one is found under a construction vehicle between November 1 and March 15? Construction workers are not allowed to handle tortoises; and given the remoteness of the project area, there would be no immediate remedy to move such animals out of harm’s way.</p> <p>Given the above information, we strongly recommend that BLM require that <i>All</i> exploratory activities, regardless of the season, be monitored.</p>	<p>Per PDF-19 included in Table F-1 of Appendix F of the EA/MND, if a tortoise is encountered during construction activities, work would be halted immediately per the authority of a designated Field Contact Representative (who would be a BLM-approved Authorized or Qualified Biologist), who would be on-site year-round during all Project activities, in proximity to the tortoise until an on-call BLM-approved Authorized Biologist arrives to move the tortoise from harm’s way, or until the tortoise leaves of its own accord. The tortoise would not be moved more than 300 meters from their capture location. If the Authorized Biologist observes significant clinical signs of ill health, the tortoise should be removed from the wild in coordination with the USFWS. If suitable habitat is not available within 300 meters of the tortoises’ capture locations or other land ownership restrictions prevent the release of individuals within 300 m (e.g., privately owned land lacking permission), the tortoise should be translocated to the Recipient Site identified in the revised Figure 3-14 of the EA/MND. The only exception to this measure is if the tortoise is in imminent, unavoidable danger (i.e., certain to be injured or killed if no action is taken) and an Authorized Biologist is not present. In this case, project personnel may move a desert tortoise the shortest distance necessary to remove the tortoise from imminent danger. The desert tortoise shall be monitored until an Authorized Biologist or USFWS is contacted for further instruction.</p> <p>Additionally, pre-construction surveys would be conducted year-round prior to surface disturbance occurring per the PDFs and BLM-required additional mitigation measures included in Appendix F of the EA/MND.</p>
4.0	4.9	Desert Tortoise Council	<p>Conversely, we do not recognize the following requirement as either feasible or reflecting current management: “The FCR [field contact representative] would be required to be onsite during all Project activities during the active season.” Often, in practice, FCRs are office managers or supervisors who are not field-based, so to require them to be onsite may prove to be unrealistic depending on their job responsibilities. Our suggestion is to drop this requirement.</p>	<p>Per Table F-1 of Appendix F of the EA/MND, PDF-21 is a component of the Plan of Operations to minimize impacts to desert tortoise and other wildlife species that may be present within the Project Area with designation of a Field Contact Representative (FCR) to oversee compliance with protective stipulations for desert tortoise. The BLM would require additional mitigation measures to further minimize wildlife impacts, as included in Table F-2 of Appendix F. The FCR would be a BLM-approved Authorized or Qualified Biologist on-site year-round throughout the life of the Project in order to implement all tortoise-related PDFs to minimize impacts. The FCR would be an on-site compliance monitor for all aspects of the Project, and should desert tortoise be detected, the FCR would contact the BLM. Furthermore, the BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.</p>
4.0	4.10	Desert Tortoise Council	<p>We request that the Project Proponent contribute to the National Fish and Wildlife Foundation’s Raven Management Fund for regional and cumulative impacts of ravens on tortoises that are not</p>	<p>The proposed mitigation measures required by the BLM for implementation, in addition to the proponent-committed PDFs in Appendix F of the EA/MND, have</p>

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			addressed in the EA. BLM usually requires this mitigation, but we did not see this requirement in the EA.	been deemed sufficient to minimize environmental impacts to threatened and endangered species, including desert tortoise, under the Proposed Action.
4.0	4.11	Desert Tortoise Council	<p>We appreciate this opportunity to provide comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect species of desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.</p> <p>Respectfully,</p> <p>Edward L. LaRue, Jr., M.S. Ecosystems Advisory Committee, Chairperson Desert Tortoise Council</p> <p>Literature Cited Abella S.R. and K.H. Berry. 2016. Enhancing and restoring habitat for the desert tortoise (<i>Gopherus agassizii</i>). Journal of Fish and Wildlife Management 7(1):xx-xx; e1944-687X. doi: 10.3996/052015-JFWM-046.</p> <p>Berry, K.H., L.J. Allison, A.M. McLuckie, M. Vaughn, and R.W. Murphy. 2021. <i>Gopherus agassizii</i>. The IUCN Red List of Threatened Species 2021: e.T97246272A3150871. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T97246272A3150871.en</p> <p>Desert Tortoise Council. 2020. A Petition to the State of California Fish and Game Commission to change the status of <i>Gopherus agassizii</i> from Threatened to Endangered. Formal petition submitted on 11 March 2020.</p>	The BLM confirms that the Desert Tortoise Council is listed as an interested party.
5.0	5.1	Dita Skalic	Dear Ms. Martinez, Im writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California. Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise. I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project. Sincerely, Dita Skalic Levstikova ulica Mor.	<p>Thank you for your comment. Impacts from the Proposed Action to Areas of Critical Environmental Concern (ACECs), Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated Project Design Features (PDFs) and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020</p>

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				and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.
6.0	6.1	Yvone Smith Michael Terry EP Karen Riggs Vicki Hughes Kim Peterson Ted Fishman Julie Adelson Stacie Charlebois Joseph Pluta Tamara Voyles Ronit Corry Kristina Fiorini Candace Hollis-Franklyn Lori Bates Therese Ryan Jamila Garrecht Candace Rocha Sudi McCollum Rachel Wolf Mark Kennedy Martin Henderson Linc Conard Alexandra Hart Sharon Barnes Jana Mariposa Niemberger Muhar Mal Gaff Karen Hellwig Bruce Grobman Pam Zimmerman	<p>Dear Ms. Martinez, Dear Ms. Martinez:</p> <p>I am concerned about the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant effects on the Picacho Area of Critical Environmental Concern including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these effects before making a decision on the project.</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>

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		Nora Roman David Burtis Kurt Beck Margaret Murray Holly Dowling Holly Burgin Jeffrey Hemenez John Crump Marilyn Shepherd Diana Bohn Henry Schlinger Michael W Evans Phoenix Giffen Lynn Ryan Probyn Gregory Roind Wood Gregory Coyle Kate Transchel Ann Stratten Margaret Shekell Karen Berger David Williams Sharon Byers Ali Van Zee Tina Colafranceschi Melvin D. Cheitlin Mike Evans Evan Jane Kriss Toni Mayer Christopher Evans Stephen Anderson Rhys Atkinson Thad Solloway Betty Winholtz Jerry Horner Annamarie Jones Joseph Kotzin O'Neill Louchard Lacey Hicks Laurence Burdick		

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		Charlene Root J. Barry Gurdin James Hatchett Elisabeth Armendarez Charlene Woodcock Ann Dorsey Ellen McCann Judy Shively Joan Murray Todd Jailer Kristine Andarmani Elena Knox Lauren Murdock Tina Brenza Joan Smith Darren Frale Blaise Brockman Sandi Covell Nikki Nafziger William Mittig Margaret Lander Lisa Patton Lynne Ann Russel Weisz Andy Carman Anthony Jammal Carol Becker Celeste M Anacker Gerald Orcholski Shoshana Wechsler George Lynch Caephren McKenna Lollie Ragana Emily Brandt Walter Ramsey James Hanink Shawn Johnson Carol Gordon Christa Neuber Bernadette Webster		

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		Janet Pielke Mike Pasner Kat Johnson Ana Herold Edward Cavasian Billy Trice Robert Hall Mary Edwards Teri Yazdi DR Specer Christine Hayes Val Farrelly Donna Sharee Susan Porter Livnat Lottati Carlita Martinez Kim Stringfellow Sarah Townsend Richard Paperno Rolf Svehaug Roberto Aburto Mrs Lynch Federique Joly Paulette Schindele Michele Reilly Claudia Wornum Carolyn Stallard Joseph Boone Natasha Saravanja Howard Labadie Judith Smith Gabriel Lautaro Linda Petruvias Warren Clark Alexander Vollmer Gary Baxel Nicolas Duonn Neville Dunn Cinda Johansen Sylvia Marie		

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		R. Zierkzee Joanna Welch Ted Cheeseman Ross Heckmann Jamie Le Lea Ella Boyle Martha Herrero James Randy Monroe Mary Able Liz Amsden Robert Reed Michael Bordenave Matthew Leivas Laura Arias Scott Emsley Victoria Miller Amber H Polly O'Malley Noah Youngelson Gila Wdiowinski Lisa Ann Kelly and Family Yves DeCarquet JL Angell Ann Graves Dennis Trembly Portland H. Coates Amber Sumrall Paul Belz Kim Forrest Querido Galdo Lucy Kenyon Janine Comrack Elaine Livesey-Fassel George Schneider Janice Nakamura Ernie Walters Joseph Aragon Jr. Lauren Coodley Lorraine Lowry Adele Myers		

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		<p>Alicia Lippman Debora Bone Ian Haddow S Kaehn Gulshan Oomerjee Marilyn Bintz Lily Mejia Jessica Mitchell-Shihabi Pam Thomas-Hill Catherine Mills Marilyn Fuller Caryn Graves Tia Triplett Robert Ricewasser Ellen Segal Marisa Landsberg Payal Sampat Joel Fithian Rashid Patch Elaine Alfaro Kris Cordova Richard Camp Nancy Hiestand Diane Lamont Charles Wieland Barbara Harper Sheri Kuticka Nancy Heck Nora Coyle Karen Kirschling Kermit Cuff Meryl Lowell Casee Maxfield Anna Drummond Anne Earhart Heather R Linda Davis Andy Tomsy Theresa Bucher Nancy Fomenko</p>		

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		Nevin Ditzler Reed Fenton Wayne Steffes Jenny E Saar Jeffery Olson Lindsay Mugglestone Jerry Persky Dan Esposito Raymundo Ramirez Rosendo Soberanez Percy Hicks-Severn Polly Pitsker Helena Hernandez Steven Kassel John Everett Sylvia Vairo Candace Key Mari Dominguez Judith Anderson Jackie Pomies Aerie Youn Mark Swoiskin Linda Martin Vance Arquilla Taia Erqueta Anna Connolly Pela Tomasello Kim Messmer Dee Randolph John Paladin Cindy Koch Patricia Day Anna Boucher Ilya Turov Philip Epstein Elizabeth Adan Elizabeth Darovic Javier Del Valle Rhonda Kess Charles Hammerstad		

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		Candy Bowman Sherrill Futrell Caryl Pearson Eury I Ramos Bruce Scotton Dodie Carlton Leah Redwood Richard Monroe Pearl Zalon Charles Wolfe Lois Harris Dana Thompson Connie Lindgren Lanelle Lovelace Bruce Fleming David Carp Karen Ratzlaff Susanne Madden Aarati Joly Dan Silver Camille Gilbert Twyla Meyer Joshua Arthur Kristen Lowry Jean Mont-Eton Pam Thomas-Hill Catherine Mills Marilyn Fuller Caryn Graves Tia Triplett Joan Forman Roy Vanderleelie Patti Fink Gerald Morris Doug Bender Nancy Pearlman Charlene Kerchevall Janice Morrill Kim Reichart Noah Schlager		

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		David Stalder James Blair Madeline Sides Rayna Vilasenor Christobal Illingworth Alison Merkel Yazmin Gonzalez Alison Merkel Abraham Oboruemuh Willie White Daniel Murphy Anne Stewart Alhour Hasab Zainab Hasan Brad Nelson George Riuz Jana Harker Maria Cardenas Spencer Berman Michael McMahan Janelle Hillhouse Gabriel Steinfeld Marjorie Xavier Sylvanna Aragon Todd Snyder Linda Rudin RoseAna Douglas Lanisha Romero Monica Jackson Laura Herndon Gary Goetz Dolores Cohenour		
7.0	7.1	Jeri Langham	Dear Ms. Martinez, Dear Ms. Martinez, AS A PROFESSOR EMERITUS OF BIOLOGICAL SCIENCES AFTER 38 YEARS OF TEACHING PRINCIPLES OF ECOLOGY AT CALIFORNIA STATE UNIVERSITY AND 36 YEARS OF LEADING TRIPS FOR VICTOR EMANUEL NATURE TOURS, I'm writing to	Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.

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			<p>express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
8.0	8.1	Scott Rubel	<p>Dear Ms. Martinez,</p> <p>United States</p>	<p>Comment incomplete.</p>
9.0	9.1	Sara Hayes	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. What you're making me wonder about if complete tribal consultation. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I strongly urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project, and include the consultation mentioned earlier.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND. Furthermore, formal government-to-government consultation with Native American tribes by the BLM has been conducted since March 2021. All instances of government-to-government consultation in accordance with Section 106 of the National Historic Preservation Act are provided within Sections 3.14 and 4.1 of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and</p>

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				analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.
10.0	10.1	Georgia Labey	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>In addition to the above concerns, CA is in a severe drought and we will soon be facing water restrictions because of the rapidly declining water levels at Lake Mead and Lake Powell due to reduced flow from the Colorado River. There can be no justification for approving a project that would use thousands of gallons of water per day when we are already faced with a water crisis.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>The Proposed Action would purchase water from vendors as needed to support exploration drilling and dust suppression activities. The Project estimates a total of 240,000 gallons of water to be used over the life of the Project, which equates to approximately 0.736 acre-feet of water being used for the life of the project. The USGS estimates the Ogilby Valley Groundwater Basin, within with the Project Area is located, to have a natural recharge rate of 250 acre-feet per year (California's Groundwater Bulletin 118). In relation to the Colorado River, the estimated 0.736 acre-feet of water needed for the life of the Project equates to 0.00013 percent of the total current level of Lake Powell (5,462,412 acre-feet) and 0.0000098 percent of the total current level of Lake Mead amount (7,449,000 acre-feet). Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, using water that is already permitted for pumping/use (i.e., the total amount permitted has already been considered within the total water budget available for pumping and the Project would be purchasing via an agreement with the seller for an amount within the seller's allowable acre-feet) and available for sale. The Project does not propose active groundwater pumping or drilling of new groundwater wells. As stated in Section 3.22 of the EA/MND, impacts to water resources would be negligible.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-</p>

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				0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.
11.0	11.1	Karen Jacques	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California. I see this project as yet another assault on an already badly damaged ecosystems that simply can't take anymore. I am sick and tired of greed driven corporations destroying one place after another and leaving toxic death scapes in their wake and I am equally sick and tired of the relentless, settler colonial assault on places scared to indigenous peoples.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project. I believe that a fairly done EIS would show this project to be untenable.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
12.0	12.1	Charlene Woodcock	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>Our state government needs to respect the cultural values of the Quechan people and the state's need to conserve water. To allow gold mining prospecting on these desert lands would harm the indigenous people, the native plants and animals, and be a terrible waste of water. These impacts of the proposed Oro Cruz Exploration Project in Imperial County, California, are unacceptable.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p>	<p>Thank you for your comment. Formal government-to-government consultation with Native American tribes by the BLM has been conducted since March 2021, including extensive consultation meetings with the Fort Yuma Quechan Indian Tribe. All instances of government-to-government consultation in accordance with Section 106 of the National Historic Preservation Act are provided within Sections 3.14 and 4.1 of the EA/MND.</p> <p>The Proposed Action would purchase water from local vendors as needed to support exploration drilling and mandatory dust suppression activities. Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, using water that is already permitted for pumping/use and available for sale. The Project does not propose active groundwater pumping or drilling of new groundwater wells. As stated in Section 3.22 of the EA/MND, impacts to water resources would be negligible.</p>

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			<p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
13.0	13.1	Mha Atma S Khalsa	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>As a California resident and an American citizen and taxpayer I have great concern about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and</p>

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14.0	14.1	Martha Booz	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I am very concerned about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>You know that exploration by Southern Empire Resources Corp. would cause irreversible damage to the landscape of the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
15.0	15.1	Janet Girard	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>As a taxpayer and landowner in California, I wish to express my great concern about the environmental impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise. (Unacceptable!)</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the</p>

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				2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.
16.0	16.1	Mark Feldman	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I AM WRITING TO STRONGLY EXPRESS MY SERIOUS CONCERNS ABOUT THE IMPACTSD OF THE PROPOSED ORO CRUZ EXPLORATION PROJECT IN IMPERIAL COUNTY, CA.</p> <p>Exploration by Southern Empire Resources Corp. WOULD CAUSE IRREVERSIBLE DAMAGE TO A LANDSCAPE OF GREAT CULTURAL, RELIGIOUS, AND SPIRITUAL IMPORTANCE TO THE QUECHAN PEOPLE, Furthermore, THIS DISASTEROUS WOULD HAVE SIGNIFICENT IMPACT ON THE Picacho Area of Critical Environmental Concern, INCLUDING on critical habitat FOR THE THREATENED Mojave Desert Tortoise.</p> <p>I STRONGLY THE Bureau of Land Management TO SWIFTLY REQUIRE AN Environmental Impact Statement TO PROPERLY ANALYZE THESE IMPACTS BEFORE MAKING A DECISION ON THIS TERRIBLE OUT OF TOUCH WITH WITH THIS DESTRUCTIVE PROJECT..</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
17.0	17.1	Bob Miller	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p>	<p>Thank you for your comment. The Proposed Action being considered by the BLM proposed exploratory drilling only. The EA/MND does not analyze impacts from mining. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action as a result of exploratory drilling to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the recent CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does</p>

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			<p>Gold mining is VERY DESTRUCTIVE to the environment.</p> <p>Sincerely,</p>	<p>not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
18.0	18.1	Alexander Pellegrino	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>The mountaintops of my home region have been turned into valleys by mining operations. Sacred sites of the Monacan Nation have been built over and a dear friend has his family graveyard bulldozed.</p> <p>Spare other communities this pain.</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND. Furthermore, all known cultural resources would be avoided under the Proposed Action.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
19.0	19.1	Zion White	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I am from the Quechan Nation, and I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p>

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			<p>would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project.</p> <p>Sincerely,</p>	<p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
20.0	20.1	Gary Hughes	<p>Dear Ms. Martinez,</p> <p>Dear Ms. Martinez,</p> <p>I'm writing to express my serious concerns about the impacts of the proposed Oro Cruz Exploration Project in Imperial County, California.</p> <p>Exploration by Southern Empire Resources Corp. would cause irreversible damage to a landscape of great cultural, religious, and spiritual importance to the Quechan people. Furthermore, the project would have significant impacts on the Picacho Area of Critical Environmental Concern, including on critical habitat for the threatened Mojave Desert Tortoise.</p> <p>I urge the Bureau of Land Management to at an absolute minimum require an Environmental Impact Statement to properly analyze these impacts before making a decision on the project. To fail to complete an EIS would be an arbitrary and capricious decision that violates bedrock environmental law.</p> <p>Sincerely,</p>	<p>Thank you for your comment. The Project area does not include any designated critical habitat for the Mojave Desert Tortoise. Information on impacts from the Proposed Action to ACECs, Cultural Resources, Native American Religious Concerns and Traditional Values, and on Wildlife including Threatened and Endangered Species are analyzed in the following sections of the EA/MND, respectively: Section 3.5, 3.8, 3.14, and 3.23. Associated PDFs and additional mitigation measures to minimize impacts are included as Appendix F of the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
21.0	21.1	Patricia Brown, PH.D.	<p>I am a retired UCLA research biologist and a consultant. Since 1968, my research has concentrated exclusively on bats (auditory neurophysiology, echolocation behavior, ontogeny, thermoregulation and foraging and roosting ecology). Much of this research has been conducted on bats that live in abandoned mines, especially in desert areas. I have surveyed more than 10,000 mine features for bats in the California Desert as part of my research and for government agencies and mining companies as part of environmental assessments prior to and concurrent with renewed mining in</p>	<p>Thank you for your comment. The PDF-11 to implement a 500-foot avoidance buffer during the bat maternity season (April 1 to August 31) for surface drilling around features with evidence of use by BLM sensitive bat species is in compliance with Volume IV Section 7 Biological Resources in the DRECP Final EIS (BLM 2015) for implementing an avoidance setback of 500 feet around known bat roosts. The EA/MND analyzes effects resulting from surface disturbance only. Underground exploration is not analyzed in the EA/MND as it</p>

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			<p>historic mining areas. Since 1976, I have surveyed (internally and externally) every mine working in the Cargo Muchacho Mountains to document seasonal bat use.</p> <p>In my research, the California leaf-nosed bat (<i>Macrotus californicus</i>) has been a species of interest since 1968. At that time, bat banding was supported by USFWS to determine movements and longevity in bats. My colleagues and I banded 14,431 California leaf-nosed bats from mines in mountain ranges close to the Lower Colorado River (LCR) between 1958 and 2016, of which 4,477 individuals were recaptured at least once (and some up to six times). The maximum longevity between initial banding and recapture was 16 years. The banding data showed a strong correlation for bats remaining in the mountain range in which they were banded, but often switching mines between seasons within a mountain range. I banded several hundred bats in the Cargo Muchacho Mountains between 1978 and 1997. Of these, recaptures were documented on only two occasions of bats moving between two mines in the Chocolate Mountains close to the LCR and mines in the Cargo Muchachos (Brown 2017).</p> <p>The results of the banding research showed that California leaf-nosed bats move between mines seasonally between mines in the Cargo Muchacho Mountains, with most mines having resident bats year-round. This species is a member of the tropical leaf-nosed bat family Phyllostomatidae and are active all year in the lower elevation deserts of California and Arizona and cannot lower their body temperature to enter winter hibernation. They survive by roosting in warm mines with temperatures of 80 ° F or greater. Geothermally heated mines in some mountain ranges provide these temperatures at depths great than 100 feet below the surface (and sometimes over 1000 feet underground), and winter roosts can contain many times the number of bats (both males and females) of summer colonies. These large winter colonies are very important to the survival of the species and must be protected.</p> <p>With hot outside temperatures in the spring and summer, the bats are using areas in mines closer to the surface. Maternity colonies are often within sight of a mine portal where temperatures are 90 ° F or warmer during since the babies cannot thermal-regulate for several weeks and develop faster in warmer temperatures. Each female California leaf-nosed bat has a single baby (pup) each year. In the Cargo Muchacho Mountains, the colonies begin to form by late March and the pups are born in early May. This is a period when any disturbance (such as drilling in the vicinity) can cause to abandon the roost, often leaving flightless juvenile bats behind to starve. Although the pups may begin to fly at a month after birth, they continue to nurse beyond that period. If undisturbed, the maternity colony will remain intact through the end of summer. In the fall, the bats congregate in mines for breeding, often in a lek roost (i.e. separate mines or in complex mines that are not used during winter or maternity season). Groups of males perform courtship displays complete with vocalizations that attract the females. Following insemination, the pregnant females have delayed fetal development and give birth 9 months later (Brown 2004).</p>	<p>is not subject to permitting under the 43 CFR 3809 Surface Management regulations and is therefore not under the decision-making realm of the BLM as it pertains to the proposed Project. However, the proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities. The proponent would use all best available LiDAR data to make the best effort to avoid drilling through voids in underground workings. Drill siting to avoid known voids in the underground workers is also in the best interest of the proponent as drills would be sited based on locations where a constant circulation of fluids to lubricate the drill rig and bring samples to the surface is possible, as lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void.</p>

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			The information provided above is why drilling should not disturb any mine roosts in the Cargo Muchachos at any season. The 500-foot rule given as mitigation in the EA was derived for surface disturbance ONLY in the DRECP during the exploration and development of renewable energy resources and would not be applicable to underground disturbance unless the portal of an adit or collar of a shaft aligned perfectly with all the underground workings.	
21.0	21.2	Patricia Brown, PH.D.	<p>Most of the mines that are important to roosting bats (and sometimes hazardous to humans) have bat-compatible gates that were installed either by American Girl Mining Joint Venture or the BLM. All the drill areas except for the section connecting the Oro Cruz Underground to the American Girl Wash are close to historic mines, most with bat use. The majority shelter California leaf-nosed bats, although the “Mesquite” Mine adit (west of the King) and close to drill area 2 shelters a pallid bat (<i>Antrozous pallidus</i>) maternity colony. The “Desert Lavender” adit near drill area 5 is a big brown bat (<i>Eptesicus fuscus</i>) maternity roost.</p> <p>The portal is only the access point into the mine and is usually not where the bats are roosting. The California leaf-nosed bats could be hundreds of feet underground especially in the winter, and drilling through the roost could cause injuries and roost abandonment. The 40% dip in the ore body in the larger mines is to the southeast with drifts at about 100-foot levels. Without an accurate underground map, it would be impossible to predict if an 800-foot-long drill hole (often diagonal) will intersect historic underground workings. It is also in the best interest of the mining company not to drill through open areas. Although I have made hand drawn bats of many of the mine workings, some areas were too hazardous to enter (although they have bat residency). My maps would probably not be accurate enough to predict from the surface where a drill rig positioned 500 feet (or hopefully further) from the portal will intersect workings several hundred feet below the surface. For this reason, I recommend that Lidar mapping be conducted for the all the complex mines close to the drill areas, to guide the drilling away from underground workings. Especially Important is the Queen (the largest <i>Macrotus</i> year-round roost in the Tumco Area) with the only access to the underground via a 300-foot-deep shaft, with multiple drifts radiating from there.</p> <p>The Crown (and West Crown) are also complex mines, and significant portions of the underground mine were collapsed during drilling by American Girl Mining Joint Venture exploration, including the “Glory Hole” to the west of the main Crown decline. This large open chamber sheltered Mexican free-tailed bats (<i>Tadarida mexicana brasiliensis</i>) and cave myotis (<i>Myotis velifer</i>) until a drill road above it collapsed it to a small opening. These species have not returned to the Cargoes. In the drilling for the Oro Cruz pit, a drill road above the historic portal to the underground completely sealed it during the spring, entombing maternity colonies of four bat species (including Townsend’s big-eared bats). While the King is not a very complex mine, a drill hole adjacent to the shaft displaced one of the main maternity colonies of California leaf-nosed bats. As of my last surveys in 2016, the bats had not returned. While renewed mining does permanently destroy bat habitat, drilling not done in an informed and supervised manner can also do damage.</p>	The proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities; however, the proponent would make their best attempt at utilizing all best available LiDAR data to also support surface drill siting in order to avoid the known voids (including mine shafts, and adits that may support bat species) in the underground workings. Furthermore, surface drill siting has been preliminarily located in the Plan of Operations based on geologic mapping and would be further developed should the Proposed Action be approved. Surface drilling relies on a constant circulation of fluids to lubricate the drill rig and bring samples to the surface; as such, lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void, such as an area with an open underground mine working. The Proponent would make the best effort possible so that surface drilling would not intersect with underground workings due to not only technical infeasibility, but also economic infeasibility given the potential loss of productivity of a drill site if it were to be sited in an area that would potentially intersect with an underground mine working. Per PDF-11 (described in Appendix F of the EA/MND), a 500-foot avoidance buffer would be implemented during the bat maternity season (April 1 to August 31) for surface drilling around features with evidence of use by BLM sensitive bat species. The proponent would utilize data provided by the BLM with locations of known abandoned mine sites that host populations of BLM sensitive bat species to implement the buffer and to inform surface drill siting.
21.0	21.3	Patricia Brown, PH.D.	The shielding of lights from the drilling is not real mitigation and the lights will not be a benefit for the bats in attracting insects. The four BLM and CDFW species of special concern do not “hawk”	Shielded lights on drilling equipment is a standard equipment feature that would be used during nighttime drilling to limit visual impacts from night lighting in the

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			<p>insects. They are all gleaners, especially California leaf-nosed bats and Townsend’s big-eared bats while pallid bats forage for ground dwelling arthropods. I also noticed in that SMP Gold Corp also will enhance some “existing roads” that follow or cross dry washes. A radiotelemetry foraging project of <i>Macrotus</i> in the Tumco Wash are showed that although desert wash vegetation made up less than 5% of the available habitat, the bats foraged in it 90% of the time. This research was conducted because in the American Girl Wash much of the wash microphyll woodland was removed during construction, and the bat population sharply declined in the remaining roosts. It took two decades for the bat population to recover in the American Boy Mine. Care should be taken to avoid impacting ANY desert wash vegetation (including young plants).</p>	<p>Project Area and is not included as a mitigation measure. Although some of the known bat species with potential to be present within the Project Area do not depend on “hawking” insects from the air and therefore would likely not be drawn to insect populations that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on “hawking” insects rather than foraging from the ground and/or vegetation; therefore, the creation of a source of light that would attract insects and thus some species of foraging bats is considered a potential impact under the Proposed Action.</p> <p>Additionally, per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities in order to identify presence of both wildlife and vegetation species that may require coordinated avoidance with the BLM. Disturbance to washes would be limited to vehicular crossings and would not include construction disturbance.</p>
21.0	21.4	Patricia Brown, PH.D.	<p>The bat section of the WestLand Biological Report is not complete or accurate in several regards. They did not appear to have knowledge of my prior research and surveys in the area (although BLM should have provided them with reports written for the American Girl Mine JV and latter directly for the BLM AML program). It would be helpful if they had given the dates of their 2022 surveys as well as the names and coordinates of the features where bats were “observed”. What methods did they use to confirm the presence of bats? Did they enter the gated mines? The comment of “stringy” black guano and yellow urine staining is not indicative of <i>Macrotus</i> or any of the other bat species roosting in the mines. I suspect that they may have seen woodrat “amber rat” marking secretions. The sections on the natural history of California leaf-nosed bats and other bat species occurring in the Cargo Muchachos were “boiler plate”, included species that would not occur in this range and missed several that do (despite their occurrence in the CNDDDB).</p>	<p>Biological baseline surveys were conducted in March 2021, as stated in the biological baseline report (WestLand 2021) and Section 3.23.2 of the EA/MND. In addition to survey data gathered during the March 2021 surveys, the baseline report relied on literature reviews, information provided in the California Natural Diversity Database, known existing conditions from recent data collected, and details for monitoring for mobilization. The BLM considered the baseline report complete and accepted in June 2021. The BLM did not require baseline surveys to include gated mines. Per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities in order to identify presence of wildlife species and any associated additional mitigation or avoidance measures that may be necessary, to be coordinated with the BLM.</p>
21.0	21.5	Patricia Brown, PH.D.	<p>They and the Stantec report did not mention the value of the horizontal underground workings as desert tortoise habitat. My late husband Dr. Tim Brown was a herpetologist (and graduate school classmate of Dr. Kristen Berry). Until his death in 1979, he assisted me in my underground mine surveys, looking for rattlesnakes. We frequently encountered tortoises or fresh scat in all seasons, but usually in the winter months. They can live hundreds of feet underground, but also use shallow prospects. When doing exclusions prior to renewed mining at the American Boy Mine, a large male tortoise lived at the first drift level 100 feet below the portal and regularly accessed the surface via a 40% rocky incline. A tortoise nest (with eggs and hatchlings observed and photographed) occurred within 25 feet of the portal of the north entrance to the “Tunnel” Mine near proposed drill area 3. When looking for desert tortoises or their sign only on the surface, the population of tortoises in the Cargo Muchachos is under-estimated. They could also become casualties to drilling through underground workings.</p>	<p>Per PDF-13 in Table F-1 of Appendix F of the EA/MND, within 24 hours of the commencement of Project activities, pre-construction tortoise surveys would be conducted by a BLM-approved Authorized or Qualified Biologist would inspect within the area to be disturbed plus a 500-foot buffer, focusing on areas that could provide suitable desert tortoise burrow or cover sites, such as dry washes with caliche. Burrows would be flagged such that they would be avoided by Project activities. Mitigation measures also include monitoring of project activities by a BLM-approved Authorized or Qualified Biologist to ensure no desert tortoises are killed or burrows crushed, and project staff are compliant with tortoise best practices.</p> <p>Additionally, please refer to response to Comment # 21.1 and 21.2. Drilling through underground workings is not anticipated. The proponent would utilize all</p>

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				best available LiDAR data to support surface drill siting in order to avoid the known voids in the underground workings; furthermore, this would be in the best interest of the proponent as surface drilling through open cavities is both technically and economically infeasible.
21.0	21.6	Patricia Brown, PH.D.	Big horn sheep were also regularly seen by me and others at American Girl Mining JV on the ridge on the north side of American Girl Wash during mining activities in the 1990s, just east of the area where the haul road will be reopened. A big horn sheep certified biologist (who can differentiate mule deer from big horn sheep scat) should conduct a survey of the rocky “inaccessible areas” near the drill sites. I would predict that 10 helicopter flights a day over the mountainous terrain might disturb them.	Biological baseline surveys were conducted in March 2021 to ascertain the most current presence of wildlife species in the area of analysis. The baseline data collected was used to analyze impacts to present or potentially present wildlife species as a result of the Proposed Action. Bighorn sheep were not observed during the baseline surveys in the survey area and additional literature and information from recent surveys and the California Natural Diversity Database were reviewed to support the conclusions made in the baseline report. Pre-construction surveys would be conducted prior to surface disturbance under the Proposed Action per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND. Should bighorn sheep or other additional wildlife species not previously present be observed, SMP would coordinate additional avoidance or mitigation measures with the BLM as necessary.
21.0	21.7	Patricia Brown, PH.D.	I believe that potential impacts of this project could be serious to bats, tortoises and big horn sheep unless mitigation is revised following more complete biological surveys. These wildlife were the one of the reasons for the creation of the Picacho ACEC. If you need any clarification of my comments or the addition of references, please contact me. Sincerely, Patricia Brown, Ph.D. 134 Eagle Vista Bishop, CA 93514 760 920 3975	The BLM has determined the additional mitigation measures outlined in Appendix F of the EA/MND to be sufficient and appropriate for minimization of impacts to the wildlife species that have been documented as present. Per Section 3.23.3, impacts to big game species, special status bat species, and desert tortoise would be minor, short-term, and localized. Additionally, as discussed in Section 3.5.3, impacts to the Picacho ACEC would be negligible, short-term, and localized.
22.0	22.1	William Rainey, Ph.D.	Various statements in the EA and associated documents acknowledge the presence of sensitive bat species (<i>Macrotus californicus</i> and <i>Corynorhinus townsendii</i>) on the Oro Cruz project site, but the BLM acquired biological contract report (WestLand 2021) involved apparently brief investigation with no description of methods. Other documentation in the EA shows that particularly <i>M. californicus</i> had been found in substantial numbers in surveys over many years at all seasons in the multiple underground workings in the project area. Given no significant underground survey or portal exodus monitoring effort in the biological contract report, the current distribution and activity of sensitive bat species on the site can only be inferred from prior investigations. These data and research at other mines both in the Cargo Muchacho Mountains and elsewhere indicate that the bats are present year round and <i>Macrotus</i> in particular is active throughout the year including emerging many nights in winter to forage in adjacent arborescent wash vegetation. The primary constraint on the proposed project directed at lessening negative impacts on sensitive bat species is that drilling will not be permitted within 500 ft of features used by sensitive bats in the interval designated as the maternity season (April 1-August 31), and the temporary drilling	Thank you for your comment. Biological baseline surveys were conducted in March 2021, as stated in the biological baseline report (WestLand 2021) and Section 3.23.2 of the EA/MND. In addition to survey data gathered during the March 2021 surveys, the baseline report relied on literature reviews, information provided in the California Natural Diversity Database, known existing conditions from recent data collected, and details for monitoring for mobilization. The BLM considered the baseline report complete and accepted in June 2021. Shielded lighting for nighttime drilling would be implemented during all instances of nighttime drilling year-round to minimize impacts from light pollution on wildlife and visual resources. Per PDF-11 (described in Appendix F of the EA/MND), a 500-foot avoidance buffer would be implemented during the bat maternity season (April 1 to August 31) for surface drilling around features with evidence of use by BLM sensitive

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22.0	22.2	William Rainey, Ph.D.	<p>Another concern is the limited seasonal duration of the proposed buffer, so outside that interval a drill pad might be installed and operated semi-continuously for a substantial interval without constraints on lighting or noise directly adjacent to a portal at which bats would have previously exited and entered in darkness every night for foraging. Disturbance constraints on available foraging time at low winter temperatures are a particular concern given both lowered prey activity and a availability at that season and the bat's potentially substantial increase in energy expenditure for thermoregulation while foraging at low ambient temperatures.</p>	<p>The BLM has determined that implementation of the 500-foot avoidance buffer during the bat maternity season (April 1 through August 1) around known bat maternity roosts with evidence of use by BLM sensitive bat species would be sufficient in minimizing impacts to bat species under the Proposed Action. The proponent would utilize data provided by the BLM with locations of known abandoned mine sites that host populations of BLM sensitive bat species to implement the buffer and to inform surface drill siting. Overall, impacts to bat species under the Proposed Action would be minor, short-term, and localized and species populations are not anticipated to be impacted as a whole.</p> <p>Shielded lighting for nighttime drilling would be implemented during all instances of nighttime drilling year-round to minimize impacts from light pollution on wildlife and visual resources.</p>
22.0	22.3	William Rainey, Ph.D.	<p>An allied comment on project noise analyses is that mapping and noise range analyses are based on audible range noise (I.e, below 20 kHz). Bats can hear in this range and several species, notably</p>	<p>No sensitive wildlife noise receptors were identified during baseline data collection or analysis of the Proposed Action. Overall, noise impacts under the</p>

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			<p><i>Antrozous pallidus</i>, rely heavily on low intensity prey produced (e.g., scorpion movement through vegetative litter beneath a shrub) and bat foraging and probably efficiency may be reduced in areas of elevated anthropogenic sound (e.g., road corridors). A different foraging and communication interference not well represented by audio range sound assumptions is that the sensitive bat species (<i>Macrotus</i> and <i>Corynorhinus</i>) in the project area are both primarily gleaners, detecting prey on foliage by emitting multiharmonic pulses of largely ultrasonic sound and listening for the returning echoes. The amount of ultrasound emission from drilling and associated static equipment (generators, etc.) is poorly known, but some masking effects near drill sites is likely to contribute along with other disturbance factors to a radius of avoidance for these species. Because they primarily forage by gleaning rather than the aerial pursuit mode of smaller bats, the suggestion in the EA that <i>Macrotus</i> may benefit from insects attracted to project lighting seems quite unlikely.</p>	<p>Proposed Action would be negligible and short-term given that noise impacts from both exploratory drilling and helicopter use would not be stationary and would be temporary in nature. Section 3.23.3 of the EA/MND has been revised to clarify potential noise impacts to special status wildlife species. Overall, bat species may experience indirect impacts from noise generation under the Proposed Action, as clarified in Section 3.23.3 of the Revised EA/MND, but impacts to bat species from Project activities are anticipated to be minor. Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to any surface disturbance commencing to identify presence of wildlife species, in accordance with the measures required under the DRECP for impacts to biological resources (BLM 2015). Should presence of wildlife species be identified, including bat species in abandoned mine features near to potential surface drilling sites that may host individuals, any additional avoidance or impact minimization measures would be coordinated with the BLM for implementation.</p> <p>Per Section 3.23.3 of the EA/MND, although drills would be shielded per the standard equipment specifications during nighttime drilling, the Proposed Action would create a source of light that would attract insects and, thus, foraging bats. Although some of the known bat species with potential to be present within the Project Area do not depend on “hawking” insects from the air and therefore would likely not be drawn to insect population that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on “hawking” insects rather than foraging from the ground and/or vegetation; therefore, the creation of a source of light that would attract insects and thus some species of foraging bats is considered a potential impact under the Proposed Action. Shielded lighting for nighttime drilling would be implemented during all instances of nighttime drilling year-round to minimize impacts from light pollution on wildlife and visual resources.</p>
22.0	22.4	William Rainey, Ph.D.	<p>Each drill pad will have a partially liquid filled sump for drilling coolant with additives and extracted drilling fines. These sumps are described as being excavated to have one low gradient slope that allows exodus of wildlife that might have approached to drink. For small wildlife with extensive wettable wing areas including birds and bats, such sumps can still generate substantial fatality rates particularly when traces of petroleum lubricants accumulate overtime as a surface film and the viscosity near the surface increases from accumulating fines or additives and lessens the ability of small animals to move in the fluid. Bats may at least initially sink below visual detection during the night, so daytime evidence of mortality may be overlooked. The sumps should be monitored by a biologist and protectively netted if mortality is detected. The project description indicates the sumps will be backfilled after they have dried, but it is important to note that hazard to</p>	<p>A BLM required mitigation measure has been added to Table F-3 of Appendix F of the EA/MND as M-9 that would require the proponent to place netting or other applicable barriers over inactive sumps during the evaporation process and prior to backfilling to prevent wildlife entrapment.</p>

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			wildlife from sumps that are still liquid likely remains after the drill rigs have moved on to the next site.	
22.0	22.5	William Rainey, Ph.D.	From the materials made available with the EA, it seems unclear that the proposed plan has maps of existing underground workings that will allow pad siting and drilling to avoid encountering prior underground mine workings. Beyond the operational issue of fluid loss, these areas include the daytime refuges of sensitive bat species, which may be at considerable depth to exploit the thermal gradient at different seasons. Given the major risk substantial undetected mortality from drilling collapsing aggregated bat refuge sites or occluding sometimes constricted and already unstable abandoned mine features that allow bats to travel from geothermally heated refuges to the surface it would be best to contract for laser mapping of the human accessible underground workings and designate a no-drill buffer around the mapped workings that allows for identifiable but inaccessible workings.	The proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities. The proponent would use all available LiDAR data to make the best effort to avoid drilling through known voids (including roosts, mine shafts, and adits that may support bat species) in the underground workings. Furthermore, surface drill siting has been preliminarily located in the Plan of Operations based on geologic mapping and would be further developed should the Proposed Action be approved. Surface drilling relies on a constant circulation of fluids to lubricate the drill rig and bring samples to the surface; as such, lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void, such as an area with an open underground mine working. The proponent would make the best effort to ensure that surface drilling would not intersect with underground workings due to not only technical infeasibility, but also economic infeasibility given the potential loss of productivity of a drill site if it were to be sited in an area that would potentially intersect with an underground mine working.
22.0	22.6	EPA	<p>Subject: EPA's Comments on the Draft Environmental Assessment/Mitigated Negative Declaration and Draft/Unsigned Finding of No Significant Impact for the SMP Gold Corp. Oro Cruz Exploration Project, Imperial County, California</p> <p>Dear Mayra Martinez:</p> <p>The U.S. Environmental Protection Agency has reviewed the Bureau of Land Management's Draft Environmental Assessment / Mitigated Negative Declaration and draft Finding of No Significant Impact (FONSI) for the above referenced project. The EPA's comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.</p> <p>SMP Gold Corp. proposes mineral exploration activities at the Oro Cruz Pit Area on land managed by the BLM in Imperial County, California. The project proposes up to 65 drill pads and associated access roads, with possible heli-portable operations, in a historical mining area with previous surface disturbance. The DEA/MND describes the Proposed Action and alternatives, including a "no action" alternative.</p> <p>We appreciate the opportunity to review the DEA and FONSI and offer the following recommendations for the Final EA and the BLM's Finding of No Significant Impact.</p> <p><i>Impacts to Tribe's Traditional Cultural Places</i></p>	Thank you for your comment. The Fort Yuma Quechan Indian Tribe identified that the proposed project is located within a larger landscape they consider a Traditional Cultural Property. The BLM continues to consult with the Quechan about the nature and extent of the Traditional Cultural Property as part of its Government-to-Government consultation, as well as for Section 106 of the NHPA consultation and relevant to other EOs and regulations. The BLM recognizes the attributes that give Traditional Cultural Properties significance, such as their association with historical events or traditional practices, are often intangible in nature. The status of the Section 106 process and tribal consultation is located in Sections 3.8, 3.14 and 4.12. Additionally, as stated in Section 3.8 of the EA/MND, all known cultural resource sites would be avoided thus minimizing direct impacts. No adverse impacts would occur with avoidance measures implemented. Project activities would be considered temporary in nature, as exploratory drilling would occur within one to two years from the beginning of the Project, followed by monitoring and reclamation activities through the remaining three years. The BLM would require additional mitigation measures to minimize indirect impacts to known cultural resource sites, as described in Section 3.8.3 and Appendix F of the EA/MND, resulting in indirect impacts being negligible, short-term, and localized.

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			<p>The draft FONSI (p. 4) indicates the Fort Yuma Quechan Tribe considers the area a Traditional Cultural Place. The DEA states that the Fort Yuma Quechan Indian Tribe has expressed opposition to the project as the project location is in an area with “great cultural, religious and spiritual significance.” It further describes the area as being a significant cultural landscape that is “integral to the spiritual and everyday lives of the Quechan people” (p. 48).</p> <p>Based on the analysis in the document for Tribes’ Traditional Cultural Places, it is unclear whether the BLM has confirmed that the area is to be considered a Traditional Cultural Place for the purpose of BLM compliance with the National Historic Preservation Act. According to the DEA, the BLM has requested further information from the Fort Yuma Quechan Tribe about the Traditional Cultural Place but, as of the date of the draft FONSI, this has not been provided and consultation remains ongoing. Still, the BLM concludes “due to the short-term nature of the Project, impacts to Native American religious concerns and traditional values would be minor, short-term, and localized.”</p> <p>Appendix F of the DEA contains mitigation measures in terms of Project Design Features and includes PDF-35 which states that the project proponent has committed to avoiding impacts to cultural resources, engaging with tribes and preparing and implementing a tribal monitoring plan. It is unclear whether and how the objections of the Quechan Tribe would be resolved and if that would affect the level of significance of the impact.</p> <p>Recommendations for the Final EA and FONSI:</p> <ul style="list-style-type: none"> • Describe whether the BLM considers the area a Traditional Cultural Place for the purposes of NHPA compliance.¹ • Describe the status of consultation with the Fort Yuma Quechan Tribe, issues raised during consultation and any proposed or agreed upon mitigation measures. • Discuss the resolution of the Tribe’s objections and document how impacts to cultural resources would be less than significant. <p>The EPA appreciates the opportunity to review this Draft EA and draft/unsigned FONSI. When the Final EA and FONSI are available, please email the documents to quam.spencer@epa.gov. If you have any questions, please contact me at 415-947-4167, or Spencer Quam, the lead reviewer for this project, at 415-972-3768.</p>	
23.0	23.1	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee 	<p>RE: SMP Gold Corp. Oro Cruz Exploration Project EA/MND</p> <p>Dear Ms. Martinez,</p> <p>These comments are timely submitted on the BLM’s Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) and proposal to approve the Plan of Operations (PoO) for the SMP Gold Corp. Oro Cruz Exploration Project (Project) from the Center for Biological Diversity, Western Watersheds Project, Earthworks, the Sierra Club California/Nevada Desert</p>	<p>Thank you for your comment. The BLM held a public comment period from November 16 – December 16, 2022 in accordance with the NEPA process for the EA portions of the joint document. Although a joint document was prepared by the BLM and Imperial County in accordance with NEPA and CEQA, the two analyses are considered separate for the two separate review processes under NEPA and CEQA by the lead agencies. Although the two agencies have coordinated, the review and decision making processes are considered separate under the two regulations. The public review periods for the EA/MND for</p>

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		<ul style="list-style-type: none"> • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Committee, Conservation Lands Foundation, Greenaction for Health and Environmental Justice, Mojave Desert Land Trust, California Native Plant Society, and the Ahmut Pipa Foundation (collectively “Conservation Organizations”). These comments are timely submitted. Although the BLM and Imperial County prepared a joint document with the EA and a Mitigated Negative Declaration (MND) combined, BLM provided public notice for the EA comment period ending December 16, 2022. On December 13, 2022, Imperial County notified the public of an opportunity to comment on the MND with comments due January 20, 2023. Because the project is a single project and both NEPA and CEQA require the agencies to consider the whole of the project in their review, the Conservation Organizations reserve the right to add additional comments regarding the joint EA/MND and compliance with State laws including SMARA and CEQA during the comment period noticed by Imperial County.</p> <p>As detailed below, BLM’s review and proposed approval of the Project violates a number of federal laws, including the Federal Land Policy Management Act (FLPMA), the National Environmental Policy Act (NEPA), and other federal laws and regulations. At a minimum, due to the likely potential for significant impacts, BLM must prepare a full Environmental Impact Statement (EIS) for this Project. In addition, because there is a fair argument that the project will have significant impacts, Imperial County must prepare an EIR.</p> <p>These comments incorporate the previous comments submitted by the above groups, especially as the EA fails to adequately respond to those comments.</p>	<p>comments related to the NEPA and CEQA analyses were attempted to be as aligned as possible.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action per the analysis in the EA/MND that no significant impacts would occur under the Proposed Action.</p> <p>Consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND can be adopted (§21080). Specifically, the statute provides that MNDs may be used, “when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-member panel representing various County agencies/organizations. Through this public process, the EEC determined that the mitigations measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of</p>

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				review/documentation for the project. Further, public controversy over the possible environmental effects of a project is not sufficient reason to require an EIR "if there is no substantial evidence in light of the whole record before the Lead Agency that the project may have a significant effect on the environment" (§ 21082.2).
23.0	23.2	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>I. The Project, and BLM’s Review and Proposed Approval, Violates FLPMA</p> <p>BLM’s review and proposed approval of the Project violates the agency’s multiple duties to protect public land resources under FLPMA.</p> <p>A. The Project Must Comply with All Applicable Land Use Plans</p> <p>FLPMA is the basic “organic act” for management of the BLM public lands. Under FLPMA, BLM must develop land use plans for the public lands under its control, 43 U.S.C. § 1712, and all resource management decisions must be in accordance with those plans. <u>Id.</u> § 1732(a), 43 C.F.R. § 1610.5-3(a). <u>See Norton v. S. Utah Wilderness Alliance</u>, 542 U.S. 55, 69 (2004) (this requirement “prevent[s] BLM from taking actions inconsistent with the provisions of a land use plan”); <u>Ore. Natural Res. Council v. Brong</u>, 492 F.3d 1120, 1128 (9th Cir. 2007) (holding BLM decision is “inconsistent with the [Land Use] Plan and, consequently, violate FLPMA”); <u>W. Watersheds Project v. Salazar</u>, 843 F.Supp.2d 1105, 1114 (D. Id. 2012) (reversing BLM decisions as inconsistent with land use plans); <u>W. Watersheds Project v. Bennett</u>, 392 F.Supp.2d 1217, 1227 (D. Id. 2005) (same).</p> <p>If a Proposed Action is not clearly consistent with the land use plan, BLM must either deny the Proposed Action or amend the plan, complying with NEPA and allowing for public participation. <u>See</u> 43 C.F.R. §§ 1610.5-3, 1610.5-5. <u>See also National Parks and Conservation Ass’n v. FAA</u>, 998 F.2d 1523, 1526 (10th Cir. 1993) (nonconforming land use required RMP amendment). The Interior Board of Land Appeals recognizes that this “consistency” requirement reflects the mandatory duty to fully and strictly comply with the governing land management plans. <u>See, e.g. Jenott Mining Corp.</u>, 134 IBLA 191, 194 (1995); <u>Uintah Mountain Club</u>, 112 IBLA 287, 291 (1990); <u>Marvin Hutchings v. BLM</u>, 116 IBLA 55, 62 (1990); <u>Southern Utah Wilderness Alliance</u>, 111 IBLA 207, 210-211 (1989).</p> <p>Complying with the RMP is required by both the general land use conformity requirement of FLPMA as well as BLM’s duty under FLPMA to “prevent unnecessary or undue degradation” (“UUD”) of the public lands. 43 U.S.C. §1732(b). To prevent UUD, BLM must ensure that all environmental protection standards will be met at all times. 43 C.F.R. § 3809.5 (definition of UUD prohibited by FLPMA includes “fail[ure] to comply with one or more of the following: ... Federal and state laws related to environmental protection.”).</p>	<p>As described under Section 1.3 of the EA/MND, under 43 CFR 3809.415, the operator of the Plan of Operations must prevent unnecessary or undue degradation to the public lands. The Proposed Action is in conformance with FLPMA in ensuring that resource protection is not compromised in accordance with the mandated principles of FLPMA. The Proposed Action is also in conformance with the California Desert Conservation Area (CDCA) Plan and the DRECP Land Use Plan Amendment (LUPA), which amended the CDCA Plan. The Proposed Action specifically conforms to the following Land Use Plan objectives from the CDCA and DRECP: encourage the development of mineral resources in a manner which satisfies national and local needs and provides for economically and environmentally sound exploration, extraction and reclamation practices; and support responsible mining and energy development operations necessary for California’s infrastructure, commerce and economic well-being. The Proposed Action would include the implementation of applicant-committed environmental protection measures, avoidance, and minimization measures CMAs in conformance with the DRECP LUPA, and per BLM mitigation requirements (Appendix F of the EA/MND). The BLM has determined that no unnecessary or undue degradation would occur under the Proposed Action, and thus the Project would remain in compliance with FLPMA and all applicable land use plans.</p>

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			<p>“All future resource management authorizations and actions ... shall conform to the approved plan.” 43 C.F.R. §1610.5-3(a). BLM defines “conformity” as requiring that “a resource management action shall be specifically provided for in the plan, or if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or plan amendment.” <i>Id.</i> §1601.0-5(b). “Consistent” is defined as requiring that decisions “will adhere to the terms, conditions, and decisions of officially approved and adopted resource related plans.” <i>Id.</i> §1601.0-5(c).</p> <p>Mining operations are not exempted from FLPMA’s requirement to comply with the RMP. For example, in <u>Western Exploration v. U.S. Dept. of the Interior</u>, 250 F. Supp. 3d 718, 747 (D. Nev. 2017), the court held that in the mining context, as well as for other potential uses of public land, RMP standards to protect the Greater Sage Grouse must be met to comply with BLM’s duty to “prevent unnecessary or undue degradation” under FLPMA. The court rejected a challenge from the mining industry and others and agreed with the Interior Department that meeting the RMP requirements was part of the UUD mandate:</p> <p style="padding-left: 40px;">Defendants [Interior Department et al.] contend that the “unnecessary or undue degradation” standard in the statute does not preclude the agency from establishing a more protective standard that seeks improvements in land conditions that “go beyond the status quo.” The FEIS states that “if actions by third parties result in habitat loss and degradation, even after applying avoidance and minimization measures, then compensatory mitigation projects will be used to provide a net conservation gain to the sage-grouse.” The Agencies’ goals to enhance, conserve, and restore sage-grouse habitat and to increase the abundance and distribution of the species, they argue, is best met by the net conservation gain strategy because it permits disturbances so long as habitat loss is both mitigated and counteracted through restorative projects. If anything, this strategy demonstrates that the Agencies allow some degradation to public land to occur for multiple use purposes, but that degradation caused to sage- grouse habitat on that land be counteracted. The Court fails to see how BLM’s decision to implement this standard is arbitrary and capricious. Moreover, the Court cannot find that BLM did not consider all relevant factors in choosing this strategy, as it appears to possess elements proposed in the DEIS.</p> <p>In sum, Plaintiffs fail to establish that BLM’s challenged decisions under FLPMA are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.</p> <p><u>Western Exploration</u>, at 747 (internal citations omitted). <i>See also Mineral Policy Center v. Norton</i>, 292 F. Supp. 2d 30, 49 (D.D.C. 2003) (“when BLM receives a proposed Plan of Operations under the 2001 rules, pursuant to Section 3809.420(a)(3), it assures that the proposed mining use conforms to the terms, conditions, and decisions of the applicable land use plan, in full compliance with FLPMA’s land use planning and multiple use policies.”).</p>	

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			<p>BLM’s mitigation policy, as detailed by the Interior Solicitor, acknowledges the need to ensure compliance with an RMP as part of its mitigation duties under the FLPMA UUD standard. In discussing the previous rulemaking (quoted above) with approval, the Solicitor reiterated “‘the operator’s responsibility to comply with applicable land use plans and BLM’s responsibility to specify necessary mitigation measures.’ Id. at 54,840 (emphasis supplied).” M-37039, The Bureau of Land Management’s Authority to Address Impacts of its Land Use Authorizations through Mitigation, 20, n. 115 (Dec. 21, 2016)(Mitigation Opinion). The 2016 Mitigation Opinion was temporarily revoked in 2017, but was recently reinstated by the Solicitor. M-37075, Withdrawal of M-37046 and Reinstatement of M-37039 (April 15, 2022) (Exhibit 2). This new Opinion noted that the 2017 Opinion (M-37046) “expresses no views regarding the merits of the legal analysis or conclusions contained in the [2016 Opinion].” M-37075 at 2.</p> <p>The Solicitor noted that “in the hardrock mining context, the BLM has long recognized that the UUD requirement creates a ‘responsibility [for the BLM] to specify necessary mitigation measures’ when approving mining plans of operations.” M-37039, at 19 (citations omitted). “The BLM regulations addressing surface management of hardrock mining operations on public lands have consistently included mitigation as a requirement for preventing UUD, including as part of the general performance standards in the current regulations.” <i>Id.</i></p>	
23.0	23.3	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation 	<p><u>B. The Project Does Not Comply with the Management Requirements and Prescriptions of the DRECP and Federal Law.</u></p> <p><i>1. California Desert National Conservation Lands</i></p> <p>The Picacho ACEC was designated as an ACEC and as California Desert National Conservation Lands (CDNCLs) by the Desert Renewable Energy Conservation Plan (DRECP) Record of Decision signed in September of 2016. The DRECP identifies CDNCLs, in accordance with the Omnibus Public Land Management Act of 2009 (Omnibus Act), which are nationally significant landscapes within the California Desert Conservation Area (CDCA) with outstanding cultural, ecological, and scientific values. The CDNCLs are a permanent addition to the National Landscape Conservation System (NLCS), as per the direction to BLM in the Omnibus Act. DRECP at xi-xii.</p> <p>The Omnibus Act added to the newly established NLCS “[a]ny area designated by Congress to be administered for conservation purposes, including...public land within the [CDCA] administered by the [BLM] for conservation purposes.” 16 U.S.C. § 7202(b)(2)(D). Unlike other CDCA lands managed under multiple-use principles, these areas are to be managed “in a manner that protects the values for which [they were] designated.” <i>Id.</i> § 7202(c)(2); see also 43 U.S.C. §1732(a).</p> <p>The Federal Land Policy Management Act (FLPMA) requires that public lands be managed under multiple use principles “except that where a tract of such public land has been dedicated to specific</p>	<p>As stated in the comment response for Comment #23.2 and provided in Section 1.3 of the EA/MND, the Proposed Action is in conformance with the CDCA Plan and the DRECP LUPA, which amended the CDCA Plan. The Proposed Action specifically conforms to the following Land Use Plan objectives from the CDCA and DRECP: encourage the development of mineral resources in a manner which satisfies national and local needs and provides for economically and environmentally sound exploration, extraction, and reclamation practices; and support responsible mining and energy development operations necessary for California’s infrastructure, commerce, and economic well-being. Furthermore, per the analysis under Section 3.7.3 of the EA/MND, relevant CMAs for National Conservation Lands (Appendix F of the EA/MND) would be required to be implemented under the Proposed Action, and impacts to National Conservation Lands would be negligible, short-term, and localized. Relatedly, mineral entry within the Picacho ACEC has not been withdrawn; therefore, locatable mineral exploration and development is not prohibited on lands within the ACEC. Per the analysis in Section 3.5.3 of the EA/MND, with implementation of the PDFs and relevant CMAs for ACECs (Appendix F of the EA/MND), impacts to the Picacho ACEC under the Proposed Action would be negligible, short-term, and localized.</p>

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23.0	23.4	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity 	<p><i>3. Department of the Interior and BLM Policy</i></p>	<p>Per Section 3.7.3 of the EA/MND, the Proposed Action would result in 20.54 acres of surface disturbance, all anticipated to occur within the CDCA and specifically the Picacho ACEC National Conservation Lands. Mineral entry</p>

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		<ul style="list-style-type: none"> • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Conservation primacy and standards for the system have also been outlined in Department of the Interior guidance and BLM policies. In 2010, Secretarial Order 3308 established a unified conservation vision for managing the National Conservation Lands ‘as required by the Omnibus Act of 2009’ to ‘conserve, protect, and restore nationally significant landscapes.’ Further stating that “the BLM shall ensure that the components of the [system] are managed to protect the values for which they were designated, including, where appropriate, prohibiting uses that are in conflict with those values.” Secretarial Order 3308, Management of the National Landscape Conservation System, Nov 15, 2010, Sec. 4.</p> <p>In 2011, BLM released the 15-Year Strategic Plan, setting specific goals for how to manage the National Conservation Lands focused on conservation, protection, and restoration. The Strategic Plan further expanded that “there is an overarching and explicit commitment to conservation and resource protection as the primary objective” and that the BLM shall “not authorize discretionary uses that cannot be managed in a manner compatible with the designation proclamation or legislation.” The National Landscape Conservation System, 15 Year Strategy, 2010.</p> <p>In 2012, BLM released two relevant Policy Manuals: 6100-National Landscape Conservation System Management; and 6220-National Monuments, Conservation areas, and Similar Designations. When making management decisions BLM must use these manuals as guidance. Secretarial Order 3308, and policy manual 6100 and 6220 provide guidance to BLM employees on the drafting of management plans and land use plan decisions as related to the National Conservation Lands. The Secretarial Order, 15-Year Strategy and Policy Manuals make clear that a agency policy prioritizes conservation over other uses within the National Conservation Lands.</p> <p>Lastly, it should be clear, that the CDNCLs are managed as part of the National Conservation Lands, and no longer managed under multiple-use standards as outlined in the Federal Land Policy Management Act. <i>See</i> BLM’s 15-Year Strategy for the National Conservation Lands, citing FLPMA, as amended, Public Law No. 94-579, Title III, Sec. 302(a). Clearly, units of the National Conservation Lands must be managed for the specific uses for which they were designated.</p> <p>BLM is precluded from permitting exploration activities that may run a foul of the requirements of the governing land use plan, and adversely impact the very purposes for which the ACEC and CDNCL were designated. Exploration activities will result in habitat loss, fragmentation, noise and dust, as well as adverse impacts to groundwater, cultural and scenic resources. FLPMA requires BLM to conduct all management and implementation activities “in accordance with” governing RMPs. 43 U.S.C. § 1732(a); <i>see also</i> 43 CFR § 1610.5-3(a) (“All future resource management authorizations and actions . . . shall conform to the approved plan”). The EA was required to fully analyze and disclose whether the actions proposed in the amended Plan of Operations (PoO) conform to the requirements of the DRECP, including the objectives for land; wildlife; vegetation; cultural and tribal resources, and other resources. It has failed to do so.</p>	<p>within the Picacho ACEC has not been withdrawn; therefore, locatable mineral exploration and development is not prohibited on lands within the ACEC. All areas of surface disturbance resulting from Project-related activities would be reclaimed concurrently throughout the life of the surface exploration Project, except for the proposed new 1.8-mile main access road to the underground portal within Drill Area 1 and the staging area, which would be reclaimed following SMP’s completion of underground exploration activities. The relevant CMAs for National Conservation Lands (Appendix F of the EA/MND) would be required to be implemented under the Proposed Action, and impacts to National Conservation Lands would be negligible, short-term, and localized. As stated in the comment response for Comment #23.2 and provided in Section 1.3 of the EA/MND, the Proposed Action is in conformance with FLPMA in ensuring that resource protection is not compromised in accordance with the mandated principles of FLPMA. The Proposed Action is also in conformance with the CDCA Plan and the DRECP LUPA. No impacts to groundwater would occur per Section 3.22.3 of the EA/MND. Direct impacts to cultural resources would not occur, and indirect impacts to cultural resources would be negligible per Section 3.8.3 of the EA/MND. Impacts to visual (scenic) resources would be negligible per Section 3.21.3 of the EA/MND. The Project would be required to implement all relevant CMAs per the DRECP, as outlined in Table F-2 of Appendix F of the EA/MND, and the BLM would require additional mitigation measures across several resource management categories as provided in Table F-3 of Appendix F of the EA/MND. Furthermore, the EA/MND sections relevant to the NEPA analysis were prepared in conformance with NEPA implementing regulations (40 CFR 1500-1508) and per policy guidance provided in the BLM NEPA Handbook H-1790-1.</p>

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			<p>BLM cannot approve any actions under the PoO that are inconsistent with BLM’s own management plans, management policies, guidelines, handbooks, and manuals. Here the EA/MND fails to show that the Project will not be inconsistent with the management plans and policies, and therefore BLM should not approve the Project.</p>	
23.0	23.5	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p><i>4. The EA/MND Fails to Fully Address ACEC and CDNCL Standards</i></p> <p>While the SMP Gold Corporation’s Oro Cruz Pit Area Exploration Plan of Operation recognizes that the proposed project is within an Area of Critical Environmental Concern (ACEC) - specifically the Picacho ACEC, it fails to identify that it is also within an area identified as part of the California Desert National Conservation Lands (CDNCL), which are part of the National Conservation Lands System (NLCS). The EA now acknowledges the project is within CDNCL lands but still fails to adequately address the project in the context of the NCLS.</p> <p>The Desert Renewable Energy Conservation Plan (DRECP) provided a framework for the Picacho ACEC. Applicable Objectives (from Appendix L of the DRECP) for the Picacho ACEC/CDNCL lands that need to be addressed for compliance in the environmental review include:</p> <ul style="list-style-type: none"> – Minimize soil disturbance. – Protect and enhance robust populations of both rare and common native plants. Unique plant assemblages exist within this ACEC, including mesquite and all thorn assemblages. – Create a baseline of plant species to track environmental changes. – Maintain and enhance habitat that supports native wildlife; Desert Tortoise, Mule Deer, Bighorn Sheep. – Manage landscape to ensure wildlife passage and connectivity between wildlife populations. – Protect biodiversity and manage for resilience (protect climate refugia and provide for migration corridors). – Maintain and or enhance key ecosystem processes (e.g., carbon sequestration, water residence time) and prepare and respond to significant disturbances to the environment (e.g., floods). – Encourage compliance with ACEC management recommendations – Protect resource values of the ACEC – Review certain proposed mining activities to ensure that they provide adequate protection of public lands and their resources. Mining activities would be allowed with appropriate analysis, stipulations, and mitigation. 	<p>Per Section 3.7.3 of the EA/MND, the Proposed Action would result in 20.54 acres of surface disturbance, all anticipated to occur within the CDCA and specifically the Picacho ACEC National Conservation Lands. Mineral entry within the Picacho ACEC has not been withdrawn; therefore, locatable mineral exploration and development is not prohibited on lands within the ACEC. All areas of surface disturbance resulting from Project-related activities would be reclaimed concurrently throughout the life of the surface exploration Project, except for the proposed new 1.8-mile main access road to the underground portal within Drill Area 1 and the staging area, which would be reclaimed following SMP’s completion of underground exploration activities within five years of Project implementation. The relevant CMAs for National Conservation Lands (Appendix F of the EA/MND) would be required to be implemented under the Proposed Action, and impacts to National Conservation Lands would be negligible, short-term, and localized.</p> <p>Additionally, the Plan of Operations provided details of the amount of water needed for the life of the project based on a preliminary water supply assessment. Groundwater pumping is not proposed under the Project. Water utilized for Project activities would be provided by a local water purveyor, Gold Rock Ranch and/or City of Yuma, which may be sourced from groundwater or the Colorado river. Sourcing is dependent on the purveyors and all water rights are secured by those entities.</p> <p>The estimated amount of water needed for the life of the Project is about 0.736 acre-feet or 0.0000098 percent of the total current level of Lake Mead. The natural groundwater recharge of the Ogilby Valley Groundwater Basin is 250 acre-feet per year (California’s Groundwater Bulletin 118) and the Project estimated water amount is 0.30 percent of the natural recharge rate. Based on the Plan of Operations and EA analysis, a detailed Water Supply Assessment was not required.</p> <p>While it is stated in the EA/MND that groundwater may be encountered during drilling activities, the volume of groundwater would be minimal if at all within the drill sumps and would be fully contained within the sumps. Sumps would be backfilled once all water has evaporated. Per the analysis in Section 3.22.3 and</p>

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			<p>Special attention is to be given to project impacts that may affect groundwater. Specifically, “for any activity that proposes to utilize groundwater resources regardless of project location,” BLM must comply with the groundwater CMA’s, including CMA LUPA-SW-23 that states:</p> <p style="padding-left: 40px;">LUPA-SW-23: A Water (Groundwater) Supply Assessment shall be prepared in conjunction with the activity’s NEPA analysis and prior to an approval or authorization. This assessment must be approved by the BLM in coordination with USFWS, CDFW, and other agencies, as appropriate, prior to the development, extraction, injection, or consumptive use of any water resource. The purpose of the Water Supply Assessment is to determine whether over-use or over-draft conditions exist within the project basin(s), and whether the project creates or exacerbates these conditions. The Assessment shall include an evaluation of existing extractions, water rights, and management plans for the water supply in the basin(s) (i.e., cumulative impacts), and whether these cumulative impacts (including the proposed project) can maintain existing land uses as well as existing aquatic, riparian, and other water-dependent resources within the basin(s) (i.e., cumulative impacts), and whether these cumulative impacts (including the proposed project) can maintain existing land uses as well as existing aquatic, riparian, and other water-dependent resources within the basin(s).</p> <p>DRECP at 141.</p> <p>The Water Supply Assessment shall also address:</p> <ul style="list-style-type: none"> • Estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin(s), including the project, for the life of the project through the decommissioning phase • Potential to cause subsidence and loss of aquifer storage capacity due to groundwater pumping • Potential to cause injury to other water rights, water uses, and landowners • Changes in water quality and quantity that affect other beneficial uses • Effects on groundwater dependent vegetation and groundwater discharge to surface water resources such as streams, springs, seeps, wetlands, and playas that could impact biological resources, habitat, or are culturally important to Native Americans • Additional field work that may be required, such as an aquifer test, to evaluate site specific project pumping impacts and if necessary, establish trigger points that can be used for a Groundwater Water Monitoring and Mitigation Plan • The mitigation measures required, if there are significant or potentially significant impacts on water resources include but are not limited to, the use of specific technologies, management practices, retirement of active water rights, development of a recycled water supply, or water imports. 	<p>with compliance with state and county permitting requirements, the Proposed Action would have a negligible, short-term, and localized impact on groundwater resources.</p>

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			<p>BLM’s environmental review must provide a Groundwater Supply Assessment in conjunction with its analysis of the proposed project under NEPA to comply with the Plan requirements and FLPMA. But has failed to do so. The EA/MND, Appendix B says that it is unnecessary to provide a Ground Water Supply Assessment and that other groundwater CMAs do not apply because the groundwater extraction is not <i>under the Project</i> site, but this response fails to address the key question—whether and how the use of groundwater for this Project may affect resources and potentially cause injury to other water uses and whether mitigation is needed. In addition, as discussed below, the failure to fully analyze these uses and impacts violates BLM’s duties under NEPA. The EA/MND at 59 states the water will come from either Gold Rock Ranch and/or a local water purveyor and without even fully identifying the source states there will be “sufficient water supplies available to serve the Project. Therefore, the Project would have less than significant impacts.” EA/MND at 59. This kind of conclusory statement without support does not meet the requirements of the Plan in the CMAs, NEPA, or CEQA. Further, the EA/MND (at 92) admits “Groundwater may be encountered during the course of exploratory drilling within the Drill Pads.” But fails to quantify the amount of groundwater that may be affected if it is encountered as well as the baseline conditions of the groundwater. This also contradicts the premise in the EA/MND that no groundwater on site would be affected.</p>	
23.0	23.5	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation 	<p><u>C. The Project Fails to Prevent Undue Impairment of the Scenic, Scientific and Environmental Values of the CDCA.</u></p> <p>BLM must also consider whether the proposed PoO complies with the FLPMA requirements “to protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to assure against pollution of the streams and waters within the California Desert Conservation Area.” 43 U.S.C. § 1781.</p> <p>The undue impairment standard is a more environmentally protective standard than the unnecessary and undue degradation (UUD) standard (discussed in more detail below), which applies on all BLM lands:</p> <p style="padding-left: 40px;">Under FLPMA section 601(f), BLM can prevent activities that cause undue impairment to the scenic, scientific, and environmental values or cause pollution of streams and waters of the CDCA, separate and apart from BLM’s authority to prevent unnecessary or undue degradation. The IBLA has agreed that BLM’s obligation to protect the three enumerated CDCA values from “undue impairment” supplements the unnecessary or undue degradation standard for CDCA lands. <i>See</i> Eric L. Price, James C. Thomas, 116 IBLA 210, 218–219 (1990). Thus, BLM decisions with respect to development proposals in the CDCA are governed by both the “undue impairment” standard of subsection 601(f) and the “unnecessary or undue degradation” standard of section 302(b), as implemented by the subpart 3809 regulations.</p>	<p>The Proposed Action is in conformance with the mandated principles of FLPMA in ensuring that resource protection is not compromised, including in relation to the CDCA. The Proposed Action would be in compliance with the CDCA Plan and the DRECP LUPA (which amended the CDCA Plan). In accordance with 43 USC 1781(f), the General Mining Law of 1872 remains applicable on public lands within the CDCA, such that measures must be in place to protect the scenic, scientific, and environmental values of the CDCA against undue impairment, and to assure against pollution of the streams and waters within the CDCA. The Proposed Action specifically conforms to the following Land Use Plan objectives from the CDCA and DRECP: Encourage the development of mineral resources in a manner which satisfies national and local needs and provides for economically and environmentally sound exploration, extraction and reclamation practices; and, support responsible mining and energy development operations necessary for California’s infrastructure, commerce and economic well-being. Impacts to surface and groundwater under the Proposed Action, including water quality, would be negligible, short-term, and localized per the analysis provided in Section 3.22.3. Additionally, the Project would acquire the necessary waters of the state permitting, including the Lake and Streambed Alteration Agreement with the California Department of Fish and Wildlife, and a Construction Stormwater General Permit with the Regional Water Quality Board pursuant to California State Water Resources Control Board requirements. Neither undue</p>

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		<ul style="list-style-type: none"> • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>66 Fed. Reg. 69998, 70018 (Nov. 21, 2000). <i>See also</i> Reeves v. U.S., 54 Fed. Cl. 652, 670-674 (Fed. Cl. 2002) (in the context of the “nonimpairment” standard for Wilderness Study Areas, federal claims court held that mining claimant had no property right under the Mining Law to violate the standard, upholding BLM’s denial of the proposed Plan of Operations). BLM’s surface mining regulations, 43 C.F.R. § 3809 et seq., specifically define UUD as occurring when operations “[f]ail to attain a stated level of protection or reclamation required by specific laws in areas such as the California Desert Conservation Area.” 43 C.F.R. § 3809.5.</p> <p>BLM was required to fully consider FLPMA’s “undue impairment” standard for the CDCA and require measures “to protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to assure against pollution of the streams and waters within the California Desert Conservation Area.” FLPMA Section 601(f), 43 U.S.C. § 1781(f). All of the areas within the proposed Plan of Operations are protected as CDNCL and/or ACEC; therefore, as part of the analysis of the proposed Plan of Operations, BLM must look to the objectives, desired future conditions, allowable uses, and Conservation Management Actions (CMAs) adopted in the DRECP (as detailed above), but the EA/MND fails to show that BLM has done so. Allowing any unmitigated adverse impacts to sensitive and protected plant species, wildlife, water resources, cultural resources, scenic, and other environment values would violate FLPMA’s standards for these lands, and therefore the Project should not be approved.</p>	<p>impairment nor pollution of streams and waters within the CDCA would occur under the Proposed Action.</p> <p>As stated throughout the EA/MND and noted in this comment, the Proposed Action would be located within the CDCA designated as California Desert National Conservation Lands, specifically within the Picacho ACEC. The BLM has determined that no significant impacts would occur to any of the present and potentially affected resources (analyzed in Chapter 3) under the Proposed Action. The activities under the Proposed Action would be short-term, and all surface disturbance would be reclaimed. Project reclamation would be completed concurrently with exploratory drilling activities, and monitoring for the success of reclamation of those areas would be completed within five years of Project implementation. In addition to the PDFs committed to by the proponent and the CMAs that would be required for implementation per the DRECP (Tables F-1 and F-2 of Appendix F of the EA/MND), the BLM would require additional mitigation measures related to Wildlife, Special Status Species, Noise, Recreation, Air Quality, Soils, Cultural Resources, and Vegetation to further minimize the negligible to minor, short-term, and localized impacts anticipated under the Proposed Action.</p>
23.0	23.6	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice 	<p><u>D. The Project Fails to Prevent Unnecessary or Undue Degradation of Public Land Resources.</u></p> <p>FLPMA requires that the BLM “take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. § 1732(b). This is known as the “prevent UUD” standard. This duty to “prevent undue degradation” is “the heart of FLPMA [that] amends and supersedes the Mining Law.” <i>Mineral Policy Center v. Norton</i>, 292 F.Supp.2d 30, 42 (D.D.C. 2003). “FLPMA, by its plain terms, vests the Secretary of the Interior [and the BLM] with the authority – indeed the obligation – to disapprove of an otherwise permissible mining operation because the operation, though necessary for mining, would unduly harm or degrade the public land.” <i>Id.</i></p> <p>The 3809 regulations implement FLPMA’s mandate to prevent UUD through two primary provisions: (1) the definition of UUD at 3809.5; and (2) the Performance Standards at 3809.420. As detailed below, BLM must fully consider the UUD mandate and protect public resources. The Performance Standards in Part 3809 mandates that all operations “must take mitigation measures specified by BLM to protect public lands.” 43 CFR § 3809.420(a)(4). BLM cannot approve a mining project that would cause UUD. 43 C.F.R. § 3809.411(d)(3)(iii). “FLPMA’s requirement that the Secretary prevent UUD supplements requirements imposed by other federal laws and by state law.”</p>	<p>As stated in Chapter 1 of the EA/MND, pursuant to 43 CFR 3809.11 and 3809.415, the Project would result in minor surface reworking of previously mined and disturbed areas, and measures would be taken to prevent unnecessary or undue degradation during Project operations. The Project would comply with the performance standards in 43 CFR 3809.420 and other federal and state laws related to environmental protection and protection of cultural resources. The Project is “reasonably incident” to mining as defined in 43 CFR 3715.0-5, and the Project would attain the stated level of protection and reclamation required by specific laws in the CDCA. Given that the Project would comply with all relevant land use plans and state and federal regulations, per the impact analysis provided in Chapter 3 of the EA/MND, and with the implementation of applicant-committed PDFs, DRECP-required CMAs, and BLM-required additional mitigation measures, the Project would not result in unnecessary or undue degradation and is therefore in compliance with FLPMA.</p> <p>Direct and indirect impacts are discussed for all present and potentially affected resources under NEPA within Chapter 3 of the EA/MND. Cumulative impacts to resources that are anticipated to have greater than negligible impacts, per the requirements under the BLM NEPA Handbook (Manual H-1790-1, BLM 2008)</p>

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		<ul style="list-style-type: none"> • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p><u>Center for Biological Diversity v. Dept. of Interior</u>, 623 F.3d 633, 644 (9th Cir. 2010). BLM complies with this mandate “by exercising case-by-case discretion to protect the environment through the process of: (1) approving or rejecting individual mining plans of operation.” <u>Id.</u> at 645, quoting <u>Mineral Policy Center</u>, 292 F.Supp.2d at 44:</p> <p style="padding-left: 40px;">“Mitigation measures fall squarely within the actions the Secretary can direct to prevent unnecessary or undue degradation of the public lands. An impact that can be mitigated, but is not, is clearly unnecessary.” 65 Fed. Reg. 69998, 70052 (Nov. 21, 2000) (preamble to BLM’s 43 C.F.R. Part 3809 mining regulations). Furthermore, if an UUD cannot be prevented through mitigation measures, BLM must reject the Plan of Operations. <u>Kendall’s Concerned Area Residents</u>, 129 IBLA 130, 138 (1994) (“If unnecessary or undue degradation cannot be prevented by mitigation measures, BLM is required to deny approval of the plan.”).</p> <p>In undertaking environmental review of this proposed Plan of Operations, BLM must consider whether mitigation measures can protect the species, habitats, soils, cultural and water resources affected by the proposed Plan of Operations in order to prevent UUD. That analysis must include detailed identification of direct and indirect impacts as well as cumulative impacts. It must identify specific mitigation measures that address each impact and also include an analysis of the effectiveness of each measure in order to meet BLM’s duties under NEPA as well as FLPMA. As detailed below, the EA/MND fails to adequately address environmental impacts and as a result has also failed to show it has taken steps to prevent UUD.</p>	<p>stating that a cumulative effects analysis is not needed on resources determined to not be impacted by the Proposed Action, alternatives (pg. 57), are also discussed within Chapter 3 for Native American Religious Concerns and Traditional Values, Recreation, Soils, Vegetation, and Wildlife resources.</p>
23.0	23.7	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice 	<p><u>E. The Project Fails to Meet the FLPMA and Part 3809 Reclamation and Submittal Requirements and the SMARA requirements</u></p> <p>Related to, and part of, the failure to prevent undue impairment and UUD under FLPMA, the Project fails to meet all of the requirements of the 43 CFR Part 3809.420 Performance Standards and the PoO submittal requirements of 3809.401. Those rules require detailed operational and reclamation requirements for all proposed activities.</p> <p>But the EA and the PoO fall far short of these mandates. As one example, the EA says that there will be 65 drill sites (EA at 6). Yet the maps of the drill sites in the PoO show well over 100 sites. <i>See</i> PoO Figures 3a-3h. In addition, many, indeed most, of these drill sites do not show any road access, whether existing or proposed. Section 3809.401(b) requires detailed plans for all “drill sites” and “access routes,” as well as detailed reclamation plans for all these sites. Yet, while the PoO clearly shows the company’s drilling sites, the EA contains no analysis of these additional sites (a NEPA violation as well, as noted below).</p>	<p>The Plan of Operations details proposed reclamation activities within Section 6, and a Reclamation Plan pursuant to SMARA is under review and subject to approval by Imperial County. The Reclamation Plan has also been reviewed and coordinated on with the BLM and with the California Division of Mine Reclamation accordingly.</p> <p>The Proposed Action would entail surface disturbance and exploratory drilling activities for drilling at up to a total of 65 drill sites. The locations shown on Figures 3a through 3h of the Plan of Operations provide only potential drill site locations and are not representative of exact locations, nor do they represent the total number of drill sites that would be explored. While more than 65 potential drill sites are shown as points on the aforementioned figures, these sites represent potential locations for up to 65 drill sites that would be dependent on geology, topography, and findings from initial drilling activities at the start of the Project.</p> <p>Permanent disturbance is not anticipated from access road construction proposed under the Proposed Action. While the EA/MND previously noted that a permanent access road would be constructed for access to the Project Area from</p>

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		<ul style="list-style-type: none"> • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Regarding the “reclamation” professed to comply with the 3809 standards, the BLM does not intend to require reclamation of the newly-constructed road coming up from the south from American Girl Wash for 5 or more years.</p> <p style="padding-left: 40px;">Access to the Oro Cruz Portal would require the construction of 9,640 linear ft (1.8 miles) of new 15-foot-wide road. The road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. A gate would be placed across the road accompanied by proper deterrence on either side of the gate (i.e. fence, berm, or large boulder).</p> <p style="padding-left: 40px;">Reclamation would be implemented at the 2.8-acre portal staging area and all equipment would be removed within the 5-year reclamation monitoring period.</p> <p>PoO at 4. BLM does not explain why reclamation will take 5 years at this site, especially when it would begin concurrently. Nor does BLM why all of the equipment and facilities could not be removed immediately, not just within 5 years.</p> <p>It appears that BLM is keeping this new road open to the portal area (and allowing its construction in the first place) in order to facilitate the company’s future mining operations. Indeed, there is no mention of closing the road, even after that 5 years. BLM does not explain why drilling areas 1 and 6 could not occur first, and be fully reclaimed, along with the southern access road.</p> <p>Notably, “The anticipated post-Project land uses are mining, recreational uses, and open space.” PoO at 20 (emphasis added). As the company has stated: “the Oro Cruz Gold Project hosts many exploration targets in addition to a high-grade oxide gold zone that, based on the historical mine operation records, is amenable to conventional heap leach extractive methods.” About Us - Southern Empire Resources at https://smp.gold/about/ (pdf from December 14, 2022) (Attachment 1).</p> <p>Under NEPA and FLPMA, if the post-Project land use is “mining,” then this future use should have been analyzed.</p> <p>Further, the EA and project documents available to the public by BLM do not contain the reclamation cost estimate and bonding for all these facilities/activities as required by the Part 3809 rules. This includes the failure to include the operational and reclamation information and analysis for the additional dozens/scores of drill sites noted above, but also for the construction and reclamation of the new southern access route.</p>	<p>the south through to Drill Area 1 for access to the underground Oro Cruz Mine Portal, the text of the EA/MND has been revised to clarify that all areas of surface disturbance resulting from Project-related activities would be reclaimed concurrently throughout the life of the surface exploration Project, except for the proposed new 1.8-mile main access road to the underground portal within Drill Area 1 and staging area, which would be reclaimed following SMP’s completion of underground exploration activities, to be completed within five years from Project implementation. Reclamation actions would be closely coordinated with the BLM and a Reclamation Plan is under review for approval by Imperial County and the Division of Mine Reclamation in accordance with the Surface Mining and Reclamation Act.</p> <p>This EA/MND analyzes only the Proposed Action and does not assume future uses. Cumulative impacts have been analyzed including reasonably foreseeable future actions that are associated with plans and/or notices that have been submitted to the BLM, as analyzed within Chapter 3 of the EA/MND. Historic mining is a past use that is present on the existing landscape; following reclamation, the newly disturbed areas would be reclaimed to be consistent with pre-Project disturbance land uses, which include mineral development and exploration, utilities and public purpose, roads, and dispersed recreation. The BLM does not consider any actions that have not submitted notices or applications with a developed plan as a reasonably foreseeable future project.</p> <p>Per 3809.401(d), an operator must submit a reclamation cost estimate at a time specified by the BLM. The BLM will coordinate with the proponent for submittal of the estimate accordingly and will review the estimate to ensure it meets the federal requirements and request a revised estimate if any deficiencies are found. The BLM will further coordinate with Imperial County (the SMARA lead) as to which agency will hold the bond.</p>
23.0	23.8	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity 	<p>F. BLM Failed to Comply with the Requirements for Rights of Ways Under FLPMA Title V.</p> <p>The EA and proposed Project approval fail to meet the strict public interest, environmental protection, and financial requirements of the Federal Land Policy and Management Act (FLPMA).</p>	<p>Pursuant to 43 CFR 3809.401(b)(2)(i), if the section of a proposed road is identified as the access route in the Plan of Operations and its use is reasonably incident to the mining operation (in the case of this Project, exploration operation), then a ROW is not required. New road building or improvements are</p>

Oro Cruz Exploration Project EA/MND Public Comments and Responses

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		<ul style="list-style-type: none"> • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>BLM is under the mistaken view that all of the new access roads are governed by “rights” under the 1872 Mining Law and the 43 CFR part 3809 regulations. Although it could be argued that the company has a right for one access road into its claim block, BLM proposes additional new route(s), especially the new road from the south to access drill areas 1 and 6. <i>See</i> PoO Figure 2.</p> <p>But as shown in that Figure 2, these drill areas can be accessed from the north, from the existing road along Tumco Wash (with only a slight area of new construction needed). <i>See also</i> PoO Figure 3b. With that access from the north, drill areas 1 and 6 can be accessed without the construction of a new road coming up from American Girl Wash. Thus, the new road all the way up from American Girl Wash is not needed to access the claims and drilling areas. As such, the company cannot assert any legitimate “right” under the Mining Law, and that road is not “authorized by the mining laws” under 43 CFR 3809.1(a) and 3809.2(a).</p> <p>In addition, constructing this new, and unneeded, road, violates the protective standards and requirements under the FLPMA undue impairment, UUD, Land Use Plan, and other requirements noted above.</p> <p>Even if it could be constructed, this access road is governed by FLPMA Title V, Section 504, and requires the issuance of a Right-of-Way (ROW) to construct the road across public lands. <i>See Alanco Environmental Resources Corp.</i>, 145 IBLA 289, 297 (1998) (“construction of a road, was subject not only to authorization under 43 C.F.R. Subpart 3809, but also to issuance of a right-of-way under 43 C.F.R. Part 2800.”); <i>Wayne D. Klump</i>, 130 IBLA 98, 100 (1995) (“Regardless of his right of access across the public lands to his mining claims and of his prior water rights, use of the public lands must be in compliance with the requirements of the relevant statutes and regulations [FLPMA Title V and ROW regulations].”). The leading treatise on federal natural resources law confirms this rule: “Rights-of-way must be explicitly applied for and granted; approvals of mining plans or other operational plans do not implicitly confer a right-of-way.” George C. Coggins & Robert L. Glicksman, <i>Pub. Nat. Res. Law</i>, § 15.21 (2d ed. 2020).</p> <p>BLM may grant a Right-of-Way (ROW) only if it “(4) will do no unnecessary damage to the environment.” 43 U.S.C. § 1764(a). Rights of way “shall be granted, issued or renewed ... consistent with... any other applicable laws.” <i>Id.</i> § 1764(c). A right-of-way that “may have significant impact on the environment” requires submission of a plan of construction, operation, and rehabilitation of the right-of-way. <i>Id.</i> § 1764(d). A Title V SUP/ROW “shall contain terms and conditions which will ... (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment.” <i>Id.</i> § 1765(a). In addition, the ROW can only be issued if activities resulting from the ROW:</p> <p style="padding-left: 40px;">(i) protect Federal property and economic interests; (ii) manage efficiently the lands which are subject to the right-of-way or adjacent thereto and protect the other lawful users of the</p>	<p>not considered casual use activities and must be conducted under a notice or authorized Plan of Operations; however, for mineral leases, a ROW is not required for access on roads within the boundaries of a mineral lease.</p> <p>Per Section 8.8 of the BLM Surface Management Handbook (H-3809-1), if an operator makes use of existing workings, then that operator assumes responsibility for reclaiming those workings. As the proponent would likely continue to use the access road proposed for access to Drill Area 1 for access to the Oro Cruz Mine Portal and staging area for underground exploration activities after the close of exploratory drilling on the surface (i.e., the Proposed Action), access to the portal using such road would be considered reasonably incident after completion of drilling and the proponent would be responsible for securing the portal and its final closure as well as reclamation of the access road at the completion of underground exploration activities. The life of the Project per the Plan of Operations analyzed under the Proposed Action anticipates surface exploration occurring over one to two years, with activities at the portal staging area and portal access road for underground exploration potentially extending beyond the initial one to two years of surface exploration. Reclamation and monitoring of all surface disturbance under the Project would be completed within five years of Project implementation.</p>

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23.0	23.9	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice 	<p>II. The EA and Proposed FONSI Violate NEPA</p> <p>NEPA requires federal agencies to take a “hard look” at the environmental consequences of their Proposed Actions. <u>Kleppe v. Sierra Club</u>, 427 U.S. 390, 410 n.21 (1976); <u>Blue Mountain Biodiversity Project v. Blackwood</u>, 161 F.3d 1208, 1211 (9th Cir. 1998). To take this “hard look,” agencies must prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). The standard for when an agency must prepare an EIS is a “low standard.” <u>Klamath Siskiyou Wildlands Ctr. v. Boody</u>, 468 F.3d 549, 562 (9th Cir. 2006).</p> <p>The Council on Environmental Quality (CEQ) establishes NEPA regulations, which are binding on every federal agency. 40 C.F.R. § 1500.3(a) (2020). The original regulations implementing NEPA were published by CEQ in 1978. See 40 Fed. Reg. 55,978 (Nov. 29, 1978). In 2020, the Trump administration published new CEQ NEPA regulations. See 85 Fed. Reg. 43,304 (July 16, 2020) (codified at 40 C.F.R. Part 1500). The Biden administration has since revised the regulations and is making further revisions. See 87 Fed. Reg. 23,453 (April 20, 2022).</p> <p>The Secretary of the Interior issued Order #3399, on April 16, 2021, which states that: “Bureaus/Offices will not apply the 2020 Rule in a manner that would change the application or</p>	<p>Please see response to Comment #23.1 regarding the BLM determination to prepare an EA in accordance with NEPA and the CEQ implementing regulations. Furthermore, the BLM has determined that no significant impacts would occur to any of the resources determined present under the Proposed Action, and thus has deemed issuance of a FONSI appropriate per the CEQ implementing regulations for NEPA.</p> <p>As analyzed throughout Chapter 3 of the EA/MND, direct and indirect impacts anticipated to occur as a result of the Proposed Action are disclosed for all resources that were determined Present and Potentially Affected. Per the BLM NEPA Handbook (Manual H-1790-1, BLM 2008) guidelines, a cumulative effects analysis is not needed on resources determined to not be impacted by the Proposed Action and alternatives. Resources that may experience minor impacts may require cumulative effects analysis, but negligible impacts are not considered significant as a result of the Proposed Action and action alternatives. As such, a cumulative impacts analysis was prepared and provided for the following resources within their associated analysis sections in Chapter 3 of the EA: Native American Religious Concerns and Traditional Values, Recreation, Soils, Vegetation, and Wildlife Resources.</p>

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23.0	23.10	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks 	<p>A. <u>The EA Failed to Fully Analyze Direct, Indirect and Cumulative Impacts.</u></p> <p>The EA fails to conduct the required “hard look” at the Project’s impacts, including both the drilling areas and the access route(s) and the Project as a whole.</p> <p>Under NEPA, BLM must consider all direct, indirect, and cumulative environmental impacts of the Proposed Action. 40 CFR §§ 1502.16, 1508.8, 1508.25(c). Direct effects are caused by the action and occur at the same time and place as the proposed project. 40 CFR § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. 40 CFR § 1508.8(b). Both types of impacts include “effects on natural resources and on the components, structures, and functioning of affected ecosystems,” as well as “aesthetic, historic, cultural, economic, social or health [effects].” <u>Id.</u></p>	<p>Direct and indirect impacts to all resources that were determined to be Present and Potentially Affected are analyzed in Chapter 3, including the following resources stated in the comment here: wildlife (Section 3.23), vegetation or native habitat (Section 3.20), soils (Section 3.18), water resources (Section 3.22), air quality (Section 3.3), ACECs (Section 3.5), cultural resources (Section 3.8), and environmental justice populations (Section 3.10). Consistency with resource management plans and federal, state, and local regulations is discussed within Chapter 1 of the EA/MND, and throughout Chapter 3 as relevant to each resource section’s analysis.</p> <p>Figure 3-4 of the EA shows the Environmental Justice Area of Analysis for direct and indirect impacts. Impacts to environmental justice would be negligible under the Proposed Action per the analysis provided in Section 3.10.3, as potential</p>

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Additionally, the likely impacts of use of these public lands by heavy equipment and exploratory drilling that are not adequately disclosed or addressed include, but are not limited to:</p> <ul style="list-style-type: none"> • Impacts to wildlife; • Impacts to native habitat; • Impacts to soils; • Impacts to groundwater and hydrology; • Impacts to air quality; • Impacts to the ACEC; • Impacts to cultural resources and Environmental Justice; • Consistency with Resource Management Plans. <p>BLM must also fully review the impacts from all “past, present, and reasonably foreseeable future actions.” These are the “cumulative effect/impacts” under NEPA. Cumulative effects/impacts are defined as:</p> <p style="padding-left: 40px;">[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.</p> <p>40 CFR § 1508.7. In a cumulative impact analysis, an agency must take a “hard look” at all actions.</p> <p style="padding-left: 40px;">An EA’s analysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. ... Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.</p> <p><u>Te-Moak Tribe of Western Shoshone v. U.S. Dept. of Interior</u>, 608 F.3d 592, 603 (9th Cir. 2010) (rejecting BLM-issued EA for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations).</p> <p>NEPA’s mandate to analyze cumulative impacts applies to all “past,” “present,” and “reasonably foreseeable future actions.” 40 C.F.R. §1508.7. BLM must include “mine-specific or cumulative</p>	<p>impacts from the Project to noise, dust generation, travel patterns, etc. in the remote Project Area would be realized by communities as a whole and no disproportionate impacts to environmental justice communities would occur. Therefore, a cumulative impacts analysis was not conducted per the BLM NEPA Handbook guidelines.</p> <p>The BLM NEPA Handbook (Manual H-1790-1, BLM 2008) states that a cumulative effects analysis is not needed on resources determined to not be impacted by the Proposed Action and alternatives (pg. 57). Resources that may experience minor impacts may require cumulative effects analysis. The BLM has determined that impacts to air quality, ACECs, climate change, including GHG emissions, National Conservation Lands, cultural resources, environmental justice, noise, travel and transportation, visual resources, and water resources as a result of the Proposed Action would be negligible, CESAs for such resources were not required or developed and therefore were not analyzed under the EA Chapter 3 cumulative effects analysis sections. The CESA boundaries for those resources that were brought forward for a cumulative impacts assessment (Native American Religious Concerns and Traditional Values, Recreation, Soils, Vegetation, and Wildlife Resources) were developed as the boundaries were determined to represent the geographic areas to which cumulative impacts could occur under the Proposed Action.</p> <p>The Proposed Action would entail surface disturbance and exploratory drilling activities for drilling at up to a total of 65 drill sites. The locations shown on Figures 3a through 3h of the Plan of Operations provide only potential drill site locations and are not representative of exact locations, nor do they represent the total number of drill sites that would be explored. While more than 65 potential drill sites are shown as points on the aforementioned figures, these sites represent potential locations for up to 65 drill sites that would be dependent on geology, topography, and findings from initial drilling activities at the start of the Project.</p> <p>Furthermore, the BLM continues to consult with the Quechan and other Tribes and has requested additional information about the nature and extent of the Traditional Cultural Property as part of its Government-to-Government consultation, as well as for Section 106 of the NHPA consultation and relevant to other Executive Orders and regulations. The BLM recognizes the attributes that give Traditional Cultural Properties significance, such as their association with historical events or traditional practices, are often intangible in nature. The status of the Section 106 process, the Traditional Cultural Property and tribal consultation is described in Sections 3. 8, 3.14 and 4.12. As stated in Section 3.8</p>

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			<p>Regarding the CESAs themselves, the EA improperly restricted the scope of analysis for critical resources such as wildlife, and even more importantly, Native American Cultural/Historical Resources. <i>See</i> EA Figures 3-2, 3-12. As discussed in more detail below, BLM is aware, the Tribes and Native communities that have lived and used these areas for millennium consider these mountains, and the Project site, as part of a much larger cultural landscape, which includes Indian Pass and related Trails network (such as the Trail of Dreams). <i>See</i> Record of Decision for the Imperial Project, at 10 (discussing Trail of Dreams as a ground for denying the Project)(Attachment 3). BLM cannot avoid its duties to the Tribes, and under NEPA and FLPMA cannot ignore these facts.</p> <p>Here, the adverse impacts from the Project when added to other past, present or reasonably foreseeable future actions is clearly essential to the BLM’s determination (and duty to ensure) that the Project complies with all legal requirements and minimizes all adverse environmental impacts. “[W]hen the nature of the effect is reasonably foreseeable but its extent is not, we think that the agency may not simply ignore the effect. The CEQ has devised a specific procedure for ‘evaluating reasonably foreseeable significant adverse effects on the human environment’ when ‘there is incomplete or unavailable information.’ 40 C.F.R. § 1502.22.” <u>Mid States Coalition for Progress v. Surface Transportation Board</u>, 345 F.3d 520, 549-550 (8th Cir. 2003). The BLM’s failure to obtain this information, or make the necessary showings under § 1502.22, for all direct, indirect and cumulative impacts violates NEPA.</p> <p>Thus, BLM failed to fully consider the cumulative impacts from all past, present, and reasonably foreseeable future projects in the region on, at a minimum, environmental justice, water and air quality, recreation, cultural/religious, wildlife, scenic and visual resources, etc. BLM must fully review, and subject such review to public comment in a revised draft EA or EIS, the cumulative impacts from all other past, present and RFFAs including mining/exploration, grazing, recreation, energy development, roads, ORV use, etc., in the region. The EA’s failure to include these reviews violates NEPA.</p>	
23.0	23.11	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks 	<p>B. <u>The EA fails to fully review all baseline conditions.</u></p> <p>The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process whether an EA or EIS is prepared:</p> <p style="padding-left: 40px;">“NEPA clearly requires that consideration of environmental impacts of proposed projects take place before [a final decision] is made.” <u>LaFlamme v. FERC</u>, 842 F.2d 1063, 1071 (9th Cir.1988) (emphasis in original). Once a project begins, the “pre-project environment” becomes a thing of the past, thereby making evaluation of the project’s effect on pre-project resources impossible. <u>Id.</u> Without establishing the baseline conditions which exist in the vicinity ... before [the project] begins, there is simply no way to determine what effect the</p>	<p>Baseline conditions (i.e., affected environment) are presented within Chapter 3 for all resources that were identified as Present and Potentially Affected and were thus analyzed for potential impacts under the Proposed Action. Baseline conditions for assessing the affected environment were gathered from literature reviews, recently collected and publicly available data, and baseline surveys where required by the BLM. Baseline conditions for Vegetation, including Noxious and Non-Native Invasive Species and Special Status Plant Species is described per baseline studies conducted in March 2021 within Section 3.20.2 of the EA/MND. Baseline conditions for Wildlife, including Migratory Birds, Special Status Species, and Threatened and Endangered Species is described per the baseline studies conducted in 2021 within Section 3.23.2 of the EA/MND.</p>

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		<ul style="list-style-type: none"> • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>proposed [project] will have on the environment and, consequently, no way to comply with NEPA. <u>Half Moon Bay Fisherman’s Mark’t Ass’n v. Carlucci</u>, 857 F.2d 505, 510 (9th Cir. 1988). “In analyzing the affected environment, NEPA requires the agency to set forth the baseline conditions.”</p> <p><u>Western Watersheds Project v. BLM</u>, 552 F.Supp.2d 1113, 1126 (D. Nev. 2008). Similarly, the CEQ explained: “The concept of a baseline against which to compare predictions of the effects of the Proposed Action and reasonable alternatives is critical to the NEPA process.” Council of Environmental Quality, <u>Considering Cumulative Effects under the National Environmental Policy Act</u> (May 11, 1999). “NEPA requires that the agency provide the data on which it bases its environmental analysis. Such analyses must occur before the Proposed Action is approved, not afterward.” <u>Northern Plains v. Surf. Transp. Brd.</u>, 668 F.3d 1067, 1083 (9th Cir 2011) (concluding that an agency’s “plans to conduct surveys and studies as part of its post-approval mitigation measures,” in the absence of baseline data, indicate failure to take the requisite “hard look” at environmental impacts). Baseline information and analysis must be part of the environmental review and be subject to public review and comment under NEPA.</p> <p>Federal courts have repeatedly rejected EAs for mineral exploration project that do not contain detailed analysis of baseline conditions for all potentially affected resources, such as groundwater, wildlife, etc. <i>See Gifford Pinchot Task Force v. Perez</i>, 2014 WL 3019165, **27-33 (D. Or. 2014) (BLM EA for mineral exploration failed to analyze baseline ground water conditions); <u>Cascade Forest Conservancy v. Heppler</u>, 2021 WL 641614, *17–20 (D. Oregon 2021); <u>ICL v. U.S. Forest Serv.</u>, 2012 WL 3758161, *14–17 (D. Idaho 2012); <u>ICL v. U.S. Forest Serv.</u>, 429 F. Supp. 3d 719, 730-32 (D. Idaho 2019).</p> <p>Here, the EA failed to obtain this baseline information on all potentially affected resources, including listed and imperiled plants and animals, other native and non-native vegetation and wildlife, ground and surface waters resources and water quality, air quality, recreation, cultural/religious/historical, and soils.</p>	<p>Baseline conditions for Water Resources, including surface water resources and general groundwater (the Project does not propose use of groundwater) is described per the aquatic resources inventory conducted in 2021 within Section 3.22.2 of the EA/MND. The affected environment for air quality per county and state current conditions and regulations is described within Section 3.3.3 of the EA/MND. The affected environment for recreation based on a desktop review of existing dispersed recreation activities is described within Section 3.17.2 of the EA/MND. A Class III Cultural Resources Inventory Report was prepared in 2021 and accepted by the BLM, and the non-confidential results of such represent the baseline conditions and are described in Section 3.8 of the EA/MND. Finally, existing soil resource conditions per a desktop review and a combination of field observations during baseline studies is described within Section 3.18.2 of the EA/MND. Baseline conditions for all other resources analyzed that are not specifically mentioned in the comment here are provided within Chapter 3 of the EA/MND.</p>
23.0	23.12	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks 	<p><u>C. The EA failed to include an adequate mitigation plan under NEPA and BLM mining regulations</u></p> <p>As noted herein, the EA fails to have an adequate plan to mitigate the significant impacts to cultural and environmental resources, as required by NEPA, FLPMA, and BLM regulations (e.g., Part 3809). As just one example, the EA fails to analyze mitigation of the dozens/scores of potential drill sites (and access routes), as it fails to analyze their impacts at all. There is also no mitigation for the loss of Native American religious and cultural use and values at and around the Project site.</p> <p>Under NEPA, the agency must have an adequate mitigation plan to minimize or eliminate all potential project impacts. NEPA requires the agency to: (1) “include appropriate mitigation</p>	<p>Mitigation measures would be required for implementation by the BLM in addition to the proponent-committed PDFs and the relevant CMAs under the Proposed Action, as described in Table F-3 of Appendix F of the EA/MND, to minimize impacts to potentially affected resources. Table F-3 includes effectiveness and impacts of the additional required mitigation measures.</p>

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23.0	23.13	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project 	<p>D. The agency must fully review all reasonable alternatives</p> <p>NEPA requires the agency to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E); 40 CFR § 1502.14. It must “rigorously explore and objectively evaluate all reasonable alternatives” to the Proposed Action. <u>City of Tenakee Springs v. Clough</u>, 915 F.2d 1308, 1310 (9th Cir. 1990). NEPA requires the environmental review to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” <u>League of Wilderness Defs.-Blue Mts. Biodiversity Project v. United States Forest</u></p>	<p>As discussed in Section 2.3 of the EA/MND, the BLM considered the following three alternatives to the Proposed Action to be reasonable for consideration in accordance with 40 CFR 1501.5 and the requirements of Section 102(2)(E) of NEPA: Access Road Restriction Alternative, Seasonal Restriction Alternative, and Helicopter Access Only Alternative. The consideration for each alternative for analysis is described in each subsection of Section 2.3. All three alternatives that were considered in addition to the Proposed Action and No Action Alternative were deemed infeasible per the justifications provided in Section 2.3 and were eliminated from further analysis in the EA/MND.</p>

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23.0	23.14	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation 	<p>III. Failure to Prepare EIS Violates NEPA</p> <p>BLM’s proposed issuance of a FONSI, and failure to prepare an EIS, violates NEPA and FLPMA. At the outset, due to the fundamental NEPA deficiencies in the EA noted above, BLM cannot issue a FONSI. BLM’s deficient EA renders its FONSI inadequate. “[I]f the EA is deficient under NEPA in one of the ways Plaintiff has previously argued, then the [agency’s] DN/FONSI is necessarily arbitrary and capricious because it relied on the 2012 EA.” <u>Gifford Pinchot Task Force v. Perez</u>, 2014 WL 3019165, *40 (D. Or. 2014).</p> <p>This follows a line of well-established Ninth Circuit precedent. <u>See Native Ecosystems Council v. Tidwell</u>, 599 F.3d 926, 937 (9th Cir. 2010) (USFS violated NEPA in issuing FONSI based on inadequate analysis); <u>Ctr. for Biological Diversity v. NHTSA</u>, 508 F.3d 1212, 1223-24 (9th Cir. 2007) (When an EA fails to comply with NEPA requirements, it “do[es] not constitute a ‘hard look’ at the environmental consequences of the action as required by NEPA. Thus, the FONSI is arbitrary and capricious.”).</p> <p>Here, BLM’s decision not to prepare an EIS was made without the critical information regarding cumulative and other impacts, alternatives, mitigation, and baseline conditions detailed above. As such, the FONSI is consequently invalid.</p> <p>NEPA requires federal agencies to prepare an EIS for “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). “If an agency decides not to prepare</p>	<p>Federal agencies, including the BLM, implement NEPA per the procedures developed by the CEQ, which is the agency responsible for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2020 and 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action. NEPA decisions for projects located elsewhere in the California Desert District are outside the scope of this EA/MND. This EA/MND also does not rely on previous NEPA decisions for projects wherein the geographic and resource conditions are not substantially similar or relevant.</p>

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			<p>only 12 acres and 30 drill sites, far less drill sites and surface impacts than are contemplated for this Oro Cruz project. Id. Notably, the Conglomerate Mesa project is within the same California Desert Resource Management Plan for the CDCA, also involves ACEC and CDNCL lands, and other critical public resources as does the much-larger Oro Cruz Project.</p> <p>BLM properly found that an EIS is required for the Conglomerate Mesa proposal, and should make the same finding here.</p>	
23.0	23.15	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>A. Biological Resources</p> <p><i>1. Desert Tortoise</i></p> <p>The Picacho Area of Environmental Concern (ACEC) was established in part to conserve the declining Mojave desert tortoise (EA at 25). Active burrows and tortoise sign were found in the drill areas (EA at 98).</p> <p>The environmental review must clearly address alternative proposals for avoiding, minimizing, and mitigating the impacts to the desert tortoise and any occupied habitat. Yet the required mitigation measures outlined in Appendix F, Table F-3 simply state that access roads will be fenced with tortoise exclusion fencing in Tumco Wash.</p> <p>An aggressive raven prevention plan also needs to be developed as part of the environmental review and followed during project development and implementation. LUPA-BIO-6 is listed as a mitigation measure, with raven management guidelines, but nothing specific to the project area. More detail of raven management specific to this area needs to be given, including nest management. Ravens are an increasing threat to Mojave desert tortoises range-wide.</p>	<p>The BLM determined after consideration of several alternatives for the Project (Section 2.3 of the EA/MND) that only the Proposed Action and the No Action Alternative would be carried through for analysis within the EA/MND. The BLM required that mitigation measures outlined in Table F-3 of Appendix F would be implemented in addition to the PDFs (i.e., environmental protection measures) that the proponent has committed to, which are outlined in full in Table F-1 of Appendix F. Several measures would be implemented to minimize impacts to desert tortoise as described in Section 3.23.3 Threatened and Endangered Species and Appendix F. Additionally, pre-construction surveys would be conducted prior to surface disturbing activities to identify species presence and any additional impact minimization or avoidance measures that may be necessary would be coordinated with the BLM. Furthermore, per the analysis in Section 3.23.3, impacts to desert tortoise as a result of the Proposed Action are anticipated to be minor, short-term, and localized. The BLM has also engaged in consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.</p> <p>Additionally, PDF-27 and PDF-28 within Table F-1 of Appendix F of the EA/MND include measures that the proponent would implement to deter ravens and other predators from entering the Project Area. Per the CMA table provided in Appendix B of the EA/MND, LUPA-BIO-6 would not be required to be implemented in addition to the applicant-committed PDFs.</p>
23.0	23.16	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project 	<p><i>2. Flat-tailed horned lizard and Colorado fringe-toed lizard</i></p> <p>Small areas of sand can harbor fringe-toed lizards (<i>Uma notata</i>) and fringe-toed lizards (<i>Phrynosoma mcallii</i>), and the EA at 79 mentions that surveyors found small sand patches in the western edge of the area of analysis during March 2021 plant surveys. The Plan of Operations states that loose sandy soils are present in the project area. But surveys during the main activity time for reptiles—May and June—were not undertaken. These reptile species may have been dormant in underground burrows in March. Therefore, the presence of these two lizard species needs to be</p>	<p>Per the requirements and assessment for LUPA-BIO-IFS-10 related to flat-tailed horned lizards in the CMA table in Appendix B, habitat is not included in the DRECP flat-tailed horned lizard species distribution model and identified occurrence of this species has not been documented within the Project Area. Furthermore, per Tables 5 and 6 of the Biological Resource Technical Report and Assessment (WestLand 2021), there is no potential of occurrence within the Project Area for flat-tailed horned lizard. Per the baseline report, some habitat does exist within the Project Area for Colorado fringe-toed lizard, however there</p>

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23.0	23.17	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation 	<p><i>3. Golden Eagles</i> Apparently, no nest surveys were undertaken. Avian surveys found active nesting prairie falcons (EA at 96). Helicopter operations to deliver drilling equipment, water, and other supplies to mountain drill sites could disturb any golden eagles nesting in the area and could lead to take under the Bald and Golden Eagle Protection Act. Golden eagles are also fully protected species under California law and cannot be taken at any time. (Cal. Fish and Game Code §3511(b)(7).) Targeted surveys during the winter nesting season should be undertaken.</p> <p>The EA states at 100:</p> <p style="padding-left: 40px;">Should golden eagles or golden eagle nests be identified during pre-clearance surveys, CMA LUPA-BIO-IFS-24 would be implemented to minimize impacts of surface disturbance within one-mile of active golden eagle nests or territories, as included in Appendix F.</p> <p>This indicates that no nest surveys were undertaken to determine the location and number of breeding pairs and active nests in the Project Area. This is not acceptable.</p> <p>The Finding of No Significant Impact for the Silicon Exploration Project Environmental Assessment DOI/BLM-NV-B020-2020-0017-EA (Attachment 5) states for golden eagles:</p>	<p>Golden eagle nest ground surveys were conducted in March 2021 in accordance with the USFWS recommended golden eagle nest survey protocols. Section 3.23.2 of the EA/MND has been revised to clarify that golden eagle nesting surveys were completed and the results of such noted that golden eagles were not present within the raptor analysis area (two-mile buffer around the Project Area). Per the Biological Resource Technical Report and Assessment (WestLand 2021), the raptor analysis area occurs within the known range of golden eagles; however, no historical records for the species occurs within the analysis area and no evidence of golden eagles or golden eagle nesting was observed during the baseline surveys. Additionally, no golden eagle nests are known to occur within 4.4 miles of the analysis area per Diamond et al.'s 2016 species status and distribution model for golden eagles (Westland 2021). As such, golden eagle take, including loss of productivity, would not occur under the Proposed Action.</p> <p>Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities under the Proposed Action in order to identify present of wildlife species and determine whether a change in drill siting must occur and/or additional impact minimization or avoidance measures may be necessary, which would be coordinated directly with the BLM.</p>

Oro Cruz Exploration Project EA/MND Public Comments and Responses

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		<ul style="list-style-type: none"> • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>There was one golden eagle nest and five possible golden eagle nests within one mile of the Project Area. None of the nests were occupied during 2019 field surveys; however, one nest was active during 2020 field surveys. To avoid impacts to those nests, AGA would implement the EPM in Section 2.2.6.10 that states Project activities would not be conducted between January 1 and August 31 within one mile of a nest. However, if that is not practicable, a survey would be conducted after March 21 at eagle nest sites that are within one mile of the Project Area to determine occupancy. The timing of the surveys may be adjusted due to winter weather conditions and is subject to approval from the NDOW based on consideration of bighorn sheep (<i>Ovis canadensis</i>) lambing activity. If a nest has a bird in an incubating/brooding posture, it would be assumed that the nest is active that year, and a one-mile disturbance buffer would be applied until August 31, or until it has been determined that 1) the nest has failed; or 2) the young have fledged and are no longer dependent on the nest. The buffer sizes may be reduced with approval from the US Fish and Wildlife Service (USFWS). If the nest is not active at the time of the surveys, the one-mile buffer would not apply and Project activities could commence. (FONSI at 6).</p> <p>Ultimately the gold exploration company decided to seek a take permit from US Fish and Wild Service, which was analyzed in a March 2022 Environmental Assessment. (Attachment 6). <u>This gold exploration project did not use helicopters.</u> The Service discusses the need for a take permit:</p> <p style="padding-left: 40px;">This Environmental Assessment (EA) analyzes the environmental consequences of the United States (U.S.) Fish and Wildlife Service (Service) issuing an incidental take permit for the take of golden eagles (<i>Aquila chrysaetos</i>) associated with the Silicon Exploration Project (Project) pursuant to the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321–4347). Issuance of an eagle take permit by the Service for take that is incidental to otherwise lawful activities under the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. §§ 668–668d and 50 Code of Federal Regulations [CFR] § 22.26) constitutes a discretionary federal action that is subject to NEPA. This EA assists the Service in ensuring compliance with NEPA, and in making a determination as to whether any “significant” impacts could result from the analyzed actions that would require preparation of an Environmental Impact Statement (EIS). This EA evaluates the effects of alternatives for the Service’s decision whether to issue an eagle take permit. (EA at 1)</p> <p>The Service issued a take permit for eagles for the Silicon Exploration Project. (See Attachment 5).</p> <p>Without proper eagle nest surveys, the Oro Cruz applicant may unintentionally harass golden eagles that might be nesting in the mountains around the drill areas, especially with the use of helicopters. This could result in the loss of productivity of eagles in the region.</p>	
23.0	23.18	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity 	<p>4. <i>Desert Bighorn Sheep</i></p>	<p>Biological baseline surveys were conducted in March 2021 to ascertain the most current presence of wildlife species in the area of analysis. The baseline data</p>

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		<ul style="list-style-type: none"> • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Currently desert bighorn sheep are not known to be present in the Cargo Muchacho mountains, but the proposed project area is within the desert bighorn Wildlife Habitat Management Area designated in BLM's 2002 Northern and Eastern Colorado Desert Plan Amendment. Repatriating the desert bighorn sheep in the Cargo Muchacho Mountains is a key goal to sustaining the desert bighorn sheep metapopulation particularly as the effects of climate change advance. The environmental review must analyze the impacts to bighorn sheep habitat from the proposed project and whether it could impact future recovery efforts.</p> <p>The EA at 95 states that no known guzzlers are in the area, but otherwise the EA does not analyze potential bighorn sheep habitat here, nor future recovery efforts.</p>	<p>collected was used to analyze impacts to present or potentially present wildlife species as a result of the Proposed Action. Bighorn sheep were not observed during the baseline surveys in the survey area, and no historical bighorn sheep occurrence records exist for the survey area. Additional literature and information from recent surveys and the California Natural Diversity Database were reviewed to support the conclusions made in the baseline report. Pre-construction surveys would be conducted prior to surface disturbance under the Proposed Action per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND. Should bighorn sheep or other additional wildlife species not previously present be observed, SMP would coordinate additional avoidance or mitigation measures with the BLM as necessary. Per the analysis in Section 3.23.3 of the EA/MND, potential impacts to big game species, including bighorn sheep should they become present, that may use the Project Area for available forage would be an increase in potential habitat fragmentation and less available forage; however, given the minimal distribution of individual species and populations within the area of analysis, impacts to big game habitat under the Proposed Action would be minor, short-term, and localized. Impacts to individual large and small mammal species may be realized as a result of surface disturbance and potential vehicular mortality may occur from overland travel and access road construction and improvements; however, impacts would not affect species populations. Further assessment of future recovery efforts of bighorn sheep populations is outside the scope of this EA/MND.</p>
23.0	23.19	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health 	<p><i>5. Burro Deer</i></p> <p>The EA at 97 states that mule deer were observed during 2021 desert tortoise surveys. This narrow endemic mule deer subspecies (<i>Odocoileus hemionus eremicus</i>) is only found in the Colorado Desert of southeastern California. Measures should be outlined that avoid disturbing these deer populations.</p>	<p>While some mule deer distributions exist within the Project area, population statistics are not well known (WestLand 2021), populations fluctuate year-to-year likely due to low water and forage availability, and no known migration corridors exist within the area of analysis. Potential impacts to big game species that may use the Project Area for available forage would be an increase in potential habitat fragmentation and less available forage; however, given the minimal distribution of individual species and populations within the area of analysis, impacts to big game habitat under the Proposed Action would be minor, short-term, and localized. Impacts to individual large and small mammal species may be realized as a result of surface disturbance and potential vehicular mortality may occur from overland travel and access road construction and improvements; however, impacts would not affect species populations. To minimize potential impacts from vehicular collisions and/or mortality, SMP would implement 20 mile per hour speed limits along all routes within the Project Area as outlined in Appendix F of the EA/MND.</p>

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		and Environmental Justice <ul style="list-style-type: none"> • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 		
23.0	23.20	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p><i>6. Rare Plants</i> Although several rare plants are known in this area and some are identified in the EA/MND (at 79), it is unclear when plant surveys were conducted and whether they were seasonally appropriate to find certain plants. Therefore other rare plants may have been missed. Without more information it appears that the conclusions in the EA/MND that rare plants will not be significantly impacted is unsupported.</p>	Biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Additional literature, information from recent surveys, and the California Natural Diversity Database were reviewed to support the conclusions made in the baseline report. Per the impact analysis in Section 3.20.3 and the reclamation measures that would be conducted on all disturbed surfaces, long-term impacts from habitat removal would be reduced. Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities under the Proposed Action and any further impact minimization or avoidance measures would be coordinated with the BLM as necessary and appropriate based on the findings of the surveys. Furthermore, should special status plants be identified during pre-construction surveys, barrier fencing would be required to be implemented around individual plants to minimize impacts to special status species.
23.0	23.21	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity 	<p>B. Cultural Resources</p> <p>The Proposed Action would adversely affect the sacred Tribal Cultural Landscape that consists of the ancient trail network, called Trail of Dreams or Xam Kwatchan Trail Network, which extends</p>	Please refer to the response to Comment #23.10, which describes the Section 106 of the NHPA consultation process wherein the BLM requested additional information about the nature and extent of the Traditional Cultural Property. The updated status of the Section 106 process and tribal consultation is in the EA in

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		<ul style="list-style-type: none"> • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>from Avi Kwa Ame (Spirit Mountain, Nevada) to the Avi Kwlal (Pilot Knob, California). The area that would be disturbed by the Oro Cruz exploration project is included in this Tribal Cultural Landscape. (See Figure 2 (map) Attachment 7). The EA has failed to analyze the impact on this Tribal Cultural Landscape held sacred by six native American Tribes in the region. Comments submitted by the Quechan Tribe are referenced in the EA (section 3.14.3):</p> <p style="padding-left: 40px;">The proposed Project location is sited within a region that is highly significant to the Fort Yuma Quechan Indian Tribe. This is a location that the Tribe attaches great cultural, religious and spiritual significance to. The Fort Yuma Quechan Indian Tribe objects to the proposed mining project and the proximity of the operation to a significant cultural landscape and items of cultural patrimony which are integral to the spiritual and everyday lives of the Quechan people.</p> <p>However, the EA states (section 3.14.3) states that “Currently, not enough information has been provided to understand the nature, extent and use of the resource, and therefore to fully assess impacts or determine if there are minimization or avoidance measures that would apply.” Not having enough information to analyze the impacts on the Tribal Cultural Landscape is not sufficient grounds to determine the project would have no significant impacts on Native American Religious Concerns and Traditional Values. Instead, the BLM should require an EIS to analyze these impacts in detail.</p> <p>Furthermore, BLM pursuant to the 2019 Dingell Act the BLM was required to develop and implement a cultural resources management plan for the Xam Kwatchan Trail Network:</p> <p style="padding-left: 40px;">Not later than 2 years after the date of enactment of the John D. Dingell, Jr. Conservation, Management, and Recreation Act [enacted March 12, 2019], the Secretary shall develop and implement a Tribal cultural resources management plan to identify, protect, and conserve cultural resources of Indian Tribes associated with the Xam Kwatchan Trail network extending from Avikwaame (Spirit Mountain, Nevada) to Avikwlal (Pilot Knob, California).</p> <p>16 U.S.C.S. § 410aaa-75. That plan is overdue and BLM cannot authorize mine exploration activities on lands associated with the Xam Kwatchan Trail Network until it completes the tribal cultural resources management plan which is needed to ensure protection and conservation of these resources.</p>	<p>Sections 3. 8, 3.14 and 4.12. The Department of the Interior’s development of a cultural resources management plan for the Xam Kwatchan Trail network is outside the scope of the project or the EA analysis.</p> <p>Furthermore, as stated in the response to Comment #23.1, the BLM has determined an EA is the appropriate level of NEPA analysis per the implement NEPA in accordance with 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2020 and 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002. Additionally, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action per the analysis in the EA/MND that no significant impacts would occur under the Proposed Action.</p>
23.0	23.22	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee 	<p>C. Additional Resource Issues</p> <p>The environmental review must provide sufficient information to evaluate serious aspects of the project and raise many questions, which if answered, might expose environmental impacts.</p>	<p>The Proposed Action would purchase water from vendors as needed to support exploration drilling and dust suppression activities. The Plan of Operations provided details of the amount of water needed for the life of the project based on a preliminary water supply assessment. Groundwater pumping is not proposed under the Project. Water utilized for Project activities would be provided by a</p>

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23.0	23.23	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice 	<p>2. Surface Disturbance</p> <p>The EA/MND (at 5) calculates the surface disturbance at 20.54 acres – but it is unclear if that calculation accounts for additional for turnaround spaces for the large trucks and heavy equipment, sumps, and overburden. All the road segments and drill pads must be considered new ground disturbances regardless of being on top of the roads and pads of previous mining/drilling/disturbed areas. Use of all road segments and pads for the proposed project will cause new disturbances. The EA/MND attempts to waive away the significance of these new surface disturbances on previously reclaimed areas, undermining the environmental review.</p>	<p>The total 20.54 acres of surface disturbance proposed under the Project and analyzed under the Proposed Action includes all aspects of surface disturbance, including road improvements, construction of new access roads, construction of the staging area, and all 65 drill sites and associated drill pads, as outlined in Section 2.1 of the EA/MND and specifically calculated in Table 2-1. All surface disturbance would be reclaimed concurrently within the drill areas, except for the staging area and new access road that connects to the Oro Cruz Mine Portal, which would be reclaimed after completion of underground exploration and other post-closure reclamation and monitoring activities, which would be completed within the total five year life of the Project.</p>

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23.0	23.24	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>3. Reclamation Plan is Not Provided</p> <p>The EA/MND refers to a Reclamation Plan (Sespe 2022) (at 8), but it is not provided with the EA/MND. Instead the EA/MND provides only a summary: “A summary of the Reclamation Plan is provided below, and complete details are provided in SMP – Oro Cruz Exploration Project Reclamation Plan (Sespe 2022), on file with Imperial County (Reclamation Plan #21-0001).” EA/MND at 8-10. A copy of the plan should have been circulated to the public during the comment period. Several important recommendations for reclamation from scoping comments do not appear to have been addressed in the EA/MND:</p> <ul style="list-style-type: none"> • Prohibit blading of road segments or the staging area. Mow or hand cut vegetation to within inches of the ground on the road segments and then drive over them to the drill pad, creating a 2-track path and leaving the roots intact. Vegetation will grow back faster from root stock than from seed. • Prohibit tracked vehicles and require only vehicles equipped with oversized, balloon tires to minimize soil compaction and to speed revegetation. • Topsoil is thin in the desert and what is scraped off for reclamation may blow away, if not covered. That topsoil needs to be protected by stockpiling at appropriate height to prevent composting from occurring which would kill off propagules and soil fauna. • Plant seedlings and require reseeding only in the fall. Do not use hydroseeding methods. • The seed source for reseeding must contain <i>locally</i> sourced native species only. The grasses should be grasses that are native to the project site. • The BLM or an independent botanist needs to survey all of the drill sites and roads to them annually starting after the drilling ends, to determine whether SMP Gold Corporation has complied with the reclamation requirements. This information should be shared with the public. Issue a notice of violation if the results are substandard. • Require an annual report in the fall on how the revegetation is progressing and the presence of and removal of all noxious weeds. • Establish criteria for “successful reclamation”. Including the density and diversity of species • Require remediation if plants aren’t established after three years. 	<p>A Reclamation Plan has been prepared for the Project in accordance with the requirements under SMARA and has been coordinated between Imperial County, BLM, and the Division of Mine Reclamation. The proposed exploration operations and site reclamation of the Project is evaluated within this EA/MND pursuant to CEQA. A summary of the Reclamation Plan is provided within Section 2.1.2, and the Reclamation Plan is on file with Imperial County (Reclamation Plan #21-0001) and available by public request.</p>

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			<ul style="list-style-type: none"> • Identify who will be responsible for the monitoring after three years if the goals have not been met and funding from the project proponent to be sure it continues. • Clean vehicles before entering the project site if they have been driven where they could pick up non-native plant propagules on their vehicle. <p>Because these important issues regarding reclamation raised in scoping were not addressed in the EA/MND, and a copy of the full Reclamation Plan is not provided for public review, the document is inadequate as an informational document under NEPA and CEQA.</p>	
23.0	23.25	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>IV. The Mitigated Negative Declaration is Inadequate to Fulfill the Requirements of SMARA or CEQA.</p> <p>A. SMARA and the County Ordinance Require the County to Evaluate Both the Mining Exploration Project and the Reclamation Plan</p> <p>Imperial County is identified as the lead agency for both SMARA and CEQA. EA/MND at 2. As the court explained in <u>Nelson v. County of Kern</u>, 190 Cal. App. 4th 252 (2010):</p> <p style="padding-left: 40px;">The Legislature declared that its intent in enacting SMARA was “to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: ¶(a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses; and ¶(b) The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.” (§ 2712, subds. (a) & (b).) “To achieve those goals, SMARA requires that persons conducting surface mining operations obtain a permit and obtain approval of a reclamation plan from a designated lead agency for areas subjected to post-January 1, 1976, mining. (§§ 2770, 2776.)” (<i>Hansen Brothers Enterprises, Inc. v. Board of Supervisors</i> (1996) 12 Cal.4th 533, 547, fn. omitted.) In particular, SMARA provides: “[N]o person shall conduct surface mining operations unless a permit is obtained from, a reclamation plan has been submitted to and approved by, and financial assurances for reclamation have been approved by, the lead agency for the operation pursuant to this article.” (§ 2770, subd. (a).) This section, including the requirement that a surface mining permit be obtained from the lead agency, has been described as “[a]t the heart of SMARA.” (<i>People ex rel. Dept. of Conservation v. El Dorado County</i> (2005) 36 Cal.4th 971, 984.)</p> <p>To facilitate the enforcement of SMARA, section 2774 states that “[e]very lead agency shall adopt ordinances in accordance with state policy that establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations . . .” (§ 2774, subd. (a).)</p>	<p>As stated above, a Reclamation Plan has been prepared for the Project in accordance with the requirements under SMARA and has been coordinated between Imperial County, BLM, and the Division of Mine Reclamation (DMR). The proposed exploration operations and site reclamation associated with the Project was evaluated in its entirety within this EA/MND pursuant to CEQA. A detailed summary of the Reclamation Plan is provided within Section 2.1.2, and the Reclamation Plan is on file with Imperial County (Reclamation Plan #21-0001) and available by public request. Note that the site reclamation activities required in the Reclamation Plan as described and evaluated in full within the EA/MND. The Reclamation Plan has also been submitted to the DMR, to which the agency has determined the document conforms to the requirements of SMARA. Additionally, onsite reclamation activities also described in the Reclamation Plan were described in detail within the Plan of Operations, which was included as Appendix A within the EA/MND.</p> <p>The BLM is the sole owner of the land where the project is proposed, and therefore Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant to SMARA. Nonetheless, consistent with the Nelson v. County of Kern court decision, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated under CEQA and NEPA.</p> <p>Lastly, consistent Title 9, Div. 20: Surface Mining & Reclamation of the Imperial County Ordinance, the Planning Commission will hold a noticed public hearing prior to approval of the Reclamation Plan, at which point the public, as well as the Department of Conservation, will again have the opportunity to comment on the Project’s proposed Reclamation Plan prior to approval of the document/Project pursuant to SMARA.</p>

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			<p>Under the Imperial County Ordinance, exploratory mining activities fall within the definition of Surface Mining Operations (Title 9, Div. 20: Surface Mining & Reclamation (hereinafter “Title 9”) § 92001.01.) The County Ordinance prohibits mining activities without first obtaining County approval of “a Permit, Reclamation Plan, and financial assurances for reclamation,” subject to narrow exceptions which are not relevant here. Title 9 § 92001.03.</p> <p>The EA/MND acknowledges that Imperial County must approve the reclamation plan (at 2), but fails to acknowledge that a permit approval is also needed. Just as in <u>Nelson</u>, here, there is no question that the County, as lead agency, “is responsible under SMARA and the local ordinance to evaluate the entire [] proposal and to determine <i>both</i> whether to issue a permit for mining operations and whether to approve the reclamation plan.” <u>Nelson</u>, 190 Cal. App. 4th at 269 (emphasis in original; citing Pub. Res. Code §§ 2770, subd. (a), 2774, subd. (a)). And as in <u>Nelson</u>, “[t]hat being the case, it was improper for County to sever the mining operations from the scope of its review under SMARA.” <u>Id.</u> 190 Cal. App. 4th at 269.</p> <p>As noted above, a complete copy of the reclamation plan was not provided to the public during this comment period. On this basis, the conservation groups reserve the right to provide additional comments once a complete copy of the reclamation plan is provided. The summary provided in the EA/MND is insufficient for the public or decision makers to determine if the reclamation plan is adequate to meet SMARA standards, and because the reclamation plan is a key part of the mitigation for the project, the failure to provide the public with all relevant studies and information also fails CEQA and fails to show that an MND is appropriate.</p>	
23.0	23.26	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice 	<p>B. CEQA requires the County to consider the whole of the action in an EIR.</p> <p>The joint EA/MND section “3.2 CEQA Checklist and Impact Analysis” is insufficient in several ways as detailed below and an EIR is needed. The purpose of CEQA is to provide decision-makers and the public with environmental information before decisions are made, not after. As the California Supreme Court observed in <u>Laurel Heights I</u>, “[i]f post-approval environmental review were allowed, [CEQA analyses] would likely become nothing more than post hoc rationalizations to support action already taken. We have expressly condemned this [practice].” <u>Laurel Heights Improvement Ass’n v. Regents of Univ. of Cal. (“Laurel Heights I”)</u>, (1988) 47 Cal. 3d 376, 394 (citation omitted). Accordingly, “public agencies shall not undertake actions concerning the proposed public project that would have a significant adverse effect or limit the choice of alternatives or mitigation measures, before completion of CEQA compliance.” CEQA Guidelines § 15004(b)(2). In particular, an agency shall not “take any action which gives impetus to a planned or foreseeable project in a manner that forecloses alternatives or mitigation measures that would ordinarily be part of CEQA review of that public project.” CEQA Guidelines § 15004(b)(2)(B). CEQA requires the preparation of environmental review documents “as early as feasible in the planning process to enable environmental considerations to influence project program and design</p>	<p>Consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND can be adopted (§21080). Specifically, the statute provides that MNDs may be used, “when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would void the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-</p>

Oro Cruz Exploration Project EA/MND Public Comments and Responses

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		<ul style="list-style-type: none"> • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>and yet late enough to provide meaningful information for environmental assessment.” <u>Laurel Heights I</u>, 47 Cal. 3d at 395; <i>see also</i> CEQA Guidelines § 15004(b).</p> <p>Only when “there is no substantial evidence in light of the whole record before the public agency that the project . . . may have a significant effect on the environment” may an agency prepare a negative declaration or mitigated negative declaration instead of an EIR. (Public Res. Code § 21064.5; <i>see also id.</i> §§ 21064, 21080(c)). A mitigated negative declaration, in particular, is prepared “when the initial study has identified potentially significant effects on the environment, but . . . revisions in the project plans or proposals . . . would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur” and there is no substantial evidence the project may have a significant effect on the environment. (<u>Id.</u> § 20164.5.) If there is substantial evidence that a project may have a significant effect on the environment, an agency must prepare an EIR. (<u>Id.</u> § 21080(d).)</p> <p>If an agency is presented with so much as “a fair argument that a project may have a significant effect on the environment, the lead agency shall prepare an EIR even though it may also be presented with other substantial evidence that the project will not have a significant effect.” (CEQA Guidelines § 15064(f)(1); <i>see also No Oil, Inc. v. Los Angeles</i> (1974) 13 Cal.3d 68, 75. By contrast, negative declarations are appropriate only when there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment. Pub. Resources Code, § 21064.5; <i>see also</i> § 21080, subd. (c); CEQA Guidelines §§ 15006, subd. (h), 15064, subd. (f)(2), 15070, subd. (b), 15369.5.</p> <p>Where, as here, there is a fair argument that the proposed project – the proposed mine exploration activities including new and expanded access roads and a reclamation plan—may have a significant effect on the environment, preparation of an EIR is required. Public Resources Code §§ 21100, 21151; CEQA Guidelines § 15064(a)(1); <u>No Oil, Inc. v. City of Los Angeles</u> (1974) 13 Cal. 3d 68, 82. No such determination can be made in this instance as detailed in this letter, there are potentially significant impacts to wildlife, water, air, cultural resources, and other resources.</p> <p>Furthermore, under CEQA, an EIR must be prepared even if the lead agency can point to substantial evidence in the record supporting its determination that no significant effect will occur. <u>Architectural Heritage Assn. v. County of Monterey</u> (2004) 122 Cal. App. 4th 1095, 1110. The lead agency may not dismiss evidence because it believes that there is contrary evidence that is more credible. <u>Pocket Protectors v. City of Sacramento</u> (2005) 124 Cal. App. 4th 903, 935. Either there is substantial evidence showing the possibility of a significant environmental effect or there is not. If there is, then the lead agency must prepare an EIR. <u>Architectural Heritage Assn.</u>, 122 Cal. App. 4th at 1109-1110. Importantly, the “fair argument” test “establishes a low threshold for initial</p>	<p>member panel representing various County agencies/organizations. The hearing/Project was also properly noticed as part of the EEC process, and County Planning Staff consulted with all appropriate County Departments, as well as all applicable local, state and federal agencies. Through this public process, the EEC determined that the mitigations measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of review/documentation for the Project.</p> <p>As discussed above, although Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant to SMARA, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated under CEQA and NEPA. Both the public and the County EEC panel members reviewed the entirety of the joint CEQA/NEPA document when rendering the decision to prepare an EA/MND for the Project.</p>

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			<p>preparation of an EIR, which reflects a preference for resolving doubts in favor of environmental review.” <u>Id.</u> at 1110.</p> <p>The County is required to consider the whole of the action in its CEQA review. CEQA Guidelines, Section 15378. The definition of “project” is “given a broad interpretation in order to maximize protection of the environment.” <u>Lighthouse Field Beach Rescue v. City of Santa Cruz</u> (2005) 131 Cal.App.4th 1170, 1180 (internal quotation omitted); <i>see also</i>, <u>Muzzy Ranch Co. v. Solano County Airport Land Use Com.</u> (2007) 41 Cal.4th 372, 381-83; <u>Fullerton Joint Union High Sch. Dist. v. State Bd. of Educ.</u> (1982) 32 Cal.3d 779, 796-97; <u>Bozung v. Local Agency Formation Com.</u> (1975) 13 Cal.3d 263, 277-81.) A “project” is “the whole of an action” directly undertaken, supported, or authorized by a public agency “which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.” (Public Resources Code § 21065; CEQA Guidelines § 15378(a).) Under CEQA, “the term ‘project’ refers to the underlying activity and not the governmental approval process.” <u>California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist.</u> (2009) 178 Cal.App.4th 1225, 1241, (quoting <u>Orinda Assn v. Bd. of Supervisors</u> (1986) 182 Cal.App.3d 1145, 1171-72 [emphasis added].) (CEQA Guidelines, § 15378(c) [“The term ‘project’ refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term ‘project’ does not mean each separate governmental approval.”]. As the court concluded in <u>Nelson</u>, 190 Cal. App. 4th at 272 “the entire CEQA project that had to be reviewed by County included both the mining operations and the reclamation plan. Both aspects were integrally related and constituted the whole of the action or the entire activity for which approvals were being sought.” Put another way, “CEQA required County to engage in an environmental review of both the mining operations and the reclamation plan—the entire project.” <u>Id.</u></p> <p>Under the County Ordinance, before a permit or reclamation plan can be approved, the site plan and reclamation plan must be found to meet the requirements of SMARA and other state statutes and regulations including CEQA. <i>See</i> Title 9 § 92002.03. Unfortunately, the County’s ordinance does not fully describe the County’s CEQA obligations because it only expressly mentions CEQA in the context of approval of the reclamation plan. Title 9 § 92002.03(B)(4). Here, the County does not acknowledge the need for a permit for all operations and the IS/MND fails to address several potentially significant impacts, rendering it inadequate.</p>	
23.0	23.27	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project 	<p>As detailed above, the Project may have significant direct and indirect impacts on listed species (desert tortoise), fully protected species (golden eagles), as well as other wildlife species of special concern (flat-tailed horned lizard and Colorado fringe-toed lizard), therefore, an EIR is required. <i>See, e.g.</i>, CEQA Guidelines §15065(a)(1) (mandatory findings of significance). Impacts to habitat for rare flora and fauna are significant under section 15065 and require full evaluation under CEQA. <i>See Mira Monte Homeowners Association v. Ventura County</i>, 165 Cal.App.3d 357, 363-364. In addition, the EA/MND fails to show that all needed plant surveys were undertaken, particularly fall plant surveys. On this basis as well the EA/MND is inadequate.</p>	<p>Please refer to response to Comments #23.15 and Section 3.23.5 of the EA/MND regarding impacts to desert tortoise. Please refer to response to Comment# 23.16 regarding determination of non-presence, and Section 3.23.5 regarding impacts to reptile species. Please refer to response to Comment #23.17 regarding determination of non-presence and impacts to golden eagles. Furthermore, please refer to the detailed response to Comment #23.1 regarding the determination to prepare an IS/MND for the Project.</p>

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		<ul style="list-style-type: none"> • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 		
23.0	23.28	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation 	<p>As detailed above, the analysis of impacts to water resources is woefully incomplete. EA/MND states that Project water use overall will be up to 2,000 gallons per day and approximately 240,000 gallons of water over the life of the Project (EA/MND at 90) and that the water would be trucked in from existing wells but does not identify which wells (at 92). And even though the specific source of water is not known, the EA/MND at 92 claims that “Project would not consume groundwater from the Imperial Valley Groundwater Basin” – there is no support for this statement. Further, the EA/MND at 92 admits “Groundwater may be encountered during the course of exploratory drilling within the Drill Pads.” But the EA/MND fails to quantify the amount of groundwater that may be affected if it is encountered. This also contradicts the premise in the EA/MND that no groundwater on site would be affected. The IS/MND notes that the area is not an adjudicated basin but provides no analysis to support the determination that this level of groundwater use is not significant in this arid environment that is currently in drought conditions. Water, especially in the desert and even more so in the time of chronic drought in California is a key resource that needs to have a full analysis in an EIR for this proposed project. The County should have fully addressed those potentially significant impacts but did not, on this basis as well an EIR is needed. In addition, as noted above, groundwater in this area is limited because it’s use may draw water from the Colorado River, the CEQA review did not disclose whether a water right is needed. Because the EA/MND fails address this potentially significant impact to Colorado River water resources, it is inadequate on this basis as well.</p> <p>Because the IS/MND failed to fully identify and analyze impacts of groundwater use by the Project it fails to comply with CEQA.</p>	<p>The Proposed Action would purchase water from vendors as needed to support exploration drilling and dust suppression activities. Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, using water that is already permitted for pumping/use and available for sale. Sourcing is dependent on the purveyors and all water rights are secured by those entities, thus, groundwater pumping for the water that would be purchased is outside the scope of the analysis of this EA/MND. The Proposed Action itself would not include pumping activities. Furthermore, no groundwater wells are present within the Project Area per the affected environment discussion in Section 3.22.2, and the State of California does not permit groundwater rights or require groundwater use monitoring for the basin within which the Project Area sites. The estimated amount of water needed for the life of the Project is approximately 0.736 acre-feet or 0.0000098 percent of the total current level of Lake Mead. The natural groundwater recharge of the Ogilby Valley Groundwater Basin is 250 acre-feet per year (California’s Groundwater Bulletin 118) and the Project estimated water amount is 0.30 percent of the natural recharge rate. SMP would not be required to retain any water rights as the Project does not propose groundwater or surface water pumping for use. Per the analysis described in Section 3.22.1 and 3.22.5 and pursuant to CEQA, the Project would have No Impact to a Less Than Significant Impacts on hydrology and water quality.</p>

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23.0	23.29	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>CEQA also requires that environmental review must analyze the effects of any proposed mitigation measures and their likely efficacy. CEQA Guidelines § 15126.4(a)(1)(D) (“If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measures shall be discussed”); <u>Save Our Peninsula Comm. v. Monterey Board of Supervisors</u> (2001) 87 Cal.App.4th 99, 130 (“An EIR is required to discuss the impacts of mitigation measures”). An agency's determination that a proposed mitigation measure will effectively mitigate an impact must be supported by substantial evidence. <u>City of Irvine v. County of Orange</u> (2015) 238 Cal.App.4th 526.</p>	<p>Mitigation measures would be required for implementation by the BLM in addition to the proponent-committed PDFs and the relevant CMAs under the Proposed Action, as designated in Table F-3 of Appendix F of the EA/MND, to minimize impacts to potentially affected resources. The Imperial County Planning Department is in agreement with the BLM required additional mitigation measures that would be implemented. Table F-3 includes effectiveness and impacts of the additional required mitigation measures.</p>

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23.0	23.30	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>The IS/MND suggests several mitigation measures that may themselves have impacts which are not analyzed. For example, the IS/MND acknowledges for air quality that the area is in nonattainment for PM10 (at 17), and that the project will cause emissions and relies on standard “project design features (“PDFs”) incorporating the local air district rules for fugitive dust emissions and GHG emissions to mitigate impacts to PM10 air quality (at 19). However, those PDFs which would potentially reduce impacts to air quality, which address mitigation measures for air quality relied on in the IS/MND, would use potentially significant amounts of water and the mitigation measures are very general. PDF-7 for Air Quality only states that “The Project would comply with applicable State of California and Imperial County Air District rules for fugitive dust emissions and greenhouse gas emissions.” It does not provide details of those rules.</p> <p>Compliance with the law alone is not sufficient evidence to support a finding of no significant impact under the CEQA. <i>See Oro Fino Gold Mining Corp. v. County of El Dorado</i> (1990) 225 Cal. App. 3d 872, 881–882. The IS/MND assumes that compliance with other regulations and programs will mitigate the air quality impacts to less-than-significant levels. The IS/MND lacks any project-specific analysis of the potential impacts and the effect that regulatory compliance could have on those impacts. Because the Project does not disclose the specifics of the Project’s impacts in the first instance, nor provide any specifics on these regulatory programs, the IS/MND lacks a basis to conclude that these regulatory programs in and of themselves will reduce the environmental impacts of this project to less-than-significant levels. Accordingly, the IS/MND’s conclusion that air quality impacts will be mitigated to less-than-significant levels is unsupported.</p> <p>Further, although EA/MND at 91 and Appendix F Table F-1, PDF-3 state “Water used for dust control would be kept to a practicable minimum . . .”, the EA/MND elsewhere states that Project water use overall will be up to 2,000 gallons per day and approximately 240,000 gallons of water over the life of the Project (EA/MND at 90) and that the water would be trucked in from existing wells but does not identify which wells (at 92). As explained above, this discussion of the groundwater use is inadequate. Because the mitigation measure to address potential impacts to air quality may have potentially significant impacts to water resources, the MND should have fully addressed those potentially significant impacts but did not. In addition, as noted above, groundwater in this area is limited because its use may draw water from the Colorado River, the CEQA review did not disclose whether a water right is needed. Because the EA/MND fails to mention this additional potential limit on water availability for the mitigation measure it relies on, it is inadequate on this basis as well. Because the IS/MND failed to address the impacts of the water use for the air quality mitigation measure the MND cannot be relied on and the County has failed to comply with CEQA.</p>	<p>The Imperial County Air Pollution Control District’s (ICAPCD) Fugitive Dust Rules 800 can be found on the ICAPCD’s website under Regulation VIII – Fugitive Dust Rules. https://apcd.imperialcounty.org/rules-and-regulations/</p> <p>As stated in Section 3.3.5, the Project would specifically comply with the Imperial County Air Pollution Control District (ICAPCD) Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which prescribe measures for the management of windblown dust. Additionally, consistent with ICAPCD Rule 801, SMP would develop a site-specific Operation Dust Control Plan, which would be submitted to the ICAPCD, and consistent with Rule 801 requirements, approval would be obtained a minimum of 10 days prior to the first ground disturbing activities as a result of the Project. The Operation Dust Control Plan would also be subject to approval by the BLM. The ICAPCD Fugitive Dust Rules have been reviewed and approved by the California Air Resource Board and the Environmental Protection Agency. These rules are in compliance with both state and federal law and are used as the main guidance document for fugitive dust suppression in the County of Imperial. All projects of this scale and nature occurring in the County of Imperial must conduct an Air Emissions Analysis to determine whether the project meets National Ambient Air Quality Standards (NAAQS).</p> <p>An air quality analysis was conducted as part of the EA/MND, and is summarized under Section 3.3.3 and determined that the Project would fall below all emission thresholds (as defined by the EPA and ICAPCD). The PDFs found in Appendix F and the ICAPCD Rule 800 documents provide standard procedures to reduce the emissions of the project. It’s also important to note that these emissions estimates did not take into account standard emissions/dust controls or other regulatory programs that the Project would implement. Specifically, as stated in Section 3.3.3 and 3.3.5 in the EA/MND, the emissions estimates presented in Table 3-6 and Table 3-7 did not account for the implementation of standard mitigation measures for construction combustion equipment from the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017), and therefore represented a conservative overestimate of Project impacts.</p> <p>Groundwater Rights and Surface Water Rights are defined separately by the State of California, Supreme Court cases and the State Water Resource Control Board. Groundwater rights are not regulated by the State of California and are subject to overlying landowners’ discretion within “reasonable use” in a groundwater basin. Surface Water rights is a highly regulated permitting process and involves any form of water above land.</p>
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23.0	23.31	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Here, there are several potentially significant impacts that are not shown to be fully mitigated including impacts to wildlife, cultural resources, air quality and ground water and there are potentially significant impacts to the environment that are not adequately identified and analyzed including inconsistencies with the governing land use management plan (as detailed above). Therefore, the County must prepare an EIR and cannot rely on a mitigated negative declaration.</p>	<p>Several mitigation measures have been included in Table F-3 of Appendix F of the EA/MND that would be required for implementation in addition to applicant-committed PDFs to further minimize potential impacts to wildlife, noise, recreation, air quality, soils, cultural resources, and vegetation. Furthermore, the Project would be in conformance with all applicable land use plans, as described in Section 1.3 of the EA/MND. Please refer to the response to Comment #23.1 regarding Imperial County's determination that preparation of an IS/MND was the appropriate CEQA documentation for the proposed Project.</p>
23.0	23.32	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society 	<p>The proposed mining exploration project may also have significant impacts to cultural resources. Imperial County claims it has fulfilled its obligations under AB 52 with a letter to a single tribe that went unanswered (EA/MND at 49). This fails to comply with the spirit of consultation requirement cannot excuse the County's failure to consider cultural resources and information tribal representatives have provided to BLM regarding the Project's potentially significant effects on cultural resources. On this basis as well, an EIR is needed.</p>	<p>On September 9, 2021, the County distributed an AB 52 consultation letter for the proposed Project. Specifically, Project information, a map, and contact information was sent to the Fort Yuma Quechan Indian Tribe. Due to the geographic location of the Project, the Fort Yuma Quechan Indian Tribe is the only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52. No response letter was received by Imperial County from the Fort Yuma Quechan Indian Tribe; however, since March 2021, the BLM and County have had extensive consultation meetings with the Fort Yuma Quechan Indian Tribe in accordance with Section 106 of the National Historic Preservation Act (see Sections 3.14 and 4.1 of the EA/MND). Additionally, the BLM has and continues to consult with the Fort Yuma Quechan Indian Tribe to ensure that potential concerns regarding tribal cultural resources are properly addressed.</p>

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23.0	23.33	<ul style="list-style-type: none"> • Lisa Velenky Center for Biological Diversity • Joan Taylor, Sierra Club California/Nevada Desert Committee • Laura Cunningham Western Watersheds Project • Jared Naimark, Earthworks • Isabella Langone, California Native Plant Society • Bradley Angel, Greenaction for Health and Environmental Justice • Kara Matsumoto, Conservation Lands Foundation • Kelly Herbinson and Cody Hanford, Mojave Desert Land Trust • Preston J. Arrow-weed, Ahumt Pipa Foundation 	<p>Based on the number of imperiled species with potential to be affected by the proposed mining exploration, lack of adequate biological surveys, and because potential impacts to water resources and air quality that have not been fully identified or analyzed in the EA/MND, an EIR is required.</p> <p>Conclusion Due to the numerous violations of FLPMA, NEPA, and other laws, BLM cannot approve the Project based on the EA and must prepare an EIS. Due to Imperial County's failure to comply with SMARA, CEQA and other laws and regulations, and because there is a fair argument that the Project will significantly impact the environment Imperial County cannot approve the Project based on the IS/MND and must prepare an EIR. Please keep us informed of all notices associated with this project.</p> <p>Respectfully, Lisa Belenky, Senior Attorney Hallie Kutak, Staff Attorney Center for Biological Diversity lbelenky@biologicaldiversity.org hkutak@biologicaldiversity.org</p> <p>Joan Taylor, Chair Sierra Club California/Nevada Desert Committee Laura Cunningham California Director Western Watersheds Project lcunningham@westernwatersheds.or</p> <p>Jared Naimark, California Minin Organizer EARTHWORKS jnaimark@earthworksaction.org</p>	<p>Please refer to the response to Comment #23.1 and regarding the determination to prepare an EA/MND pursuant to NEPA and CEQA implementing regulations. The BLM and Imperial County confirm that the Center for Biological Diversity, the Sierra Club California/Nevada Desert Committee, Western Watersheds Projects, Earthworks, California Native Plant Society, Greenaction for Health and Environmental Justice, Conservation lands Foundation, Desert Land Trust, and Ahumt Pipa Foundation are on the interested parties list.</p>

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			<p>Kara Matsumoto, Public Lands Policy Director Conservation Lands Foundation kara@conservationlands.org</p> <p>Kelly Herbinson and Cody Hanford Joint Executive Directors Mojave Desert Land Trust kelly@mdlt.org</p> <p>Isabella Langone, J.D. Conservation Program Manager California Native Plant Society ilangone@cnps.org</p> <p>Bradley Angel Greenaction for Health and Environmental Justice bradley@greenaction.org</p> <p>Preston J. Arrow-weed, President Ahmut Pipa Foundation ahmut@earthlink.net</p> <p>Attachments:</p> <ul style="list-style-type: none"> • Attachment 1: About Us - Southern Empire Resources at https://smp.gold/about/ (pdf from December 14, 2022) • Attachment 2: EXPLORATION PLAN OF OPERATION for the IMPERIAL EXPLORATION PROJECT IMPERIAL COUNTY, CA, revised Oct. 2020 • Attachment 3: Record of Decision for the Imperial Project Gold Mine Proposal Imperial County, California, U.S. Department of Interior, BLM Case File No. CA 670-41027 OEPC #DES-97-43 and #DES-99-8 OEPC #FES-00-50, Signed by the Secretary of Interior, January 17, 2001 • Attachment 4: March 9, 2022 letter from Carl Symons, BLM Ridgecrest Field Manager, to Mojave Precious Metals • Attachment 5: FONSI for the Silicon Exploration Project Plan of Operations Nevada Reclamation Permit Application DOI-BLM-NV-B020-2020-0017-EA available at https://www.fws.gov/media/silicon-exploration-project-eagle-permit-nepa-documents ; https://eplanning.blm.gov/public_projects/1505119/200366575/20022705/250028909/20200724_Silicon_FONSI_Final_Signed.pdf • Attachment 6: Environmental Assessment for the Issuance of an Eagle Take Permit for the Silicon Exploration Project, U.S. Fish and Wildlife Service, March 2022 available at https://www.fws.gov/sites/default/files/documents/EA-silicon-exploration-project-eagle-permit.pdf 	

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			<ul style="list-style-type: none"> • Attachment 7: Cleland, James H. 2008. Ethnographic Trail Systems as Large-Scale Cultural Landscapes: Preservation and Management Issues in Preserving the Boundaries of Historic Landscape Preservation, edited by Cari Goetcheus and Eric MacDonald (Clemson, SC: Clemson University Digital Press, 2008), [6]+208 pp. Paper (out of print). ISBN 978-0-9796066-5-6 available at https://tigerprints.clemson.edu/cgi/viewcontent.cgi?article=1003&context=cudp_environment • Attachment 8: Wiele, S.M., Leake, S.A., Owen-Joyce, S.J., and McGuire, E.H., 2009, Update of the accounting surface along the lower Colorado River: U.S. Geological Survey Scientific Investigations Report 2008-5113, version 1.1, 16 p., 3 plates in pocket. Available at https://pubs.usgs.gov/sir/2008/5113/sir2008-5113_text.pdf 	
24.0	24.1	Individual	<p>I am submitting these comments in response to the Bureau of Land Management evaluation of the proposed Oro Cruz mineral exploration mining project. I have extensive experience with a variety of bat research and monitoring projects in southwestern deserts and elsewhere. My thesis work evaluated California leaf-nosed bat (MACA) and Townsend’s big-eared bat (COTO) use of habitat along the Lower Colorado River (LCR), including sites adjacent to the Cargo Muchacho Mountains in Mojave Desert habitat. I have also worked as a bat biologist in military training areas where shooting of guns, explosive detonation, and drilling exploration activities took place. In addition, I have also worked as a Wildlife Lead Planner in desert habitats that to a great extent included the same wildlife species that currently inhabit the proposed project area.</p> <p>I am particularly concerned about how the Proposed Action will affect the maternity roosts colonies of MACA, and desert tortoises which have been known to use mines to hibernate in the winter (Dr. Pat Brown pers. comm.) and in the summer months in the proposed project area. It is not uncommon to encounter tortoises in shallow and deeper locations inside mines. I have personally witnessed one Desert tortoise inside a mine of the Cargo Muchacho Mountains. This is not one isolated event as stated by Mistcehnko, “During the hot season, much of the desert wildlife spend daylight hours underground. We found rattlesnakes, desert tortoises, rats, and bee honeycombs underground.” See pictures below. (https://calconservation.blog/2018/10/26/its-california-bat-week-october-24-31-2018/).</p> <p>I believe that BLM’s classification of Criteria d and f (as shown in Table 3-32 of the EA) as “Less than Significant Impact” is inappropriate and should have been instead classified as “Potentially Significant Impact Unless Mitigation Incorporated”. My reasons are as follows.</p>	<p>Thank you for your comment. Baseline surveys for wildlife and vegetation were conducted in March 2021, and desert tortoise surveys were conducted in January 2021, and are discussed in Section 3.23.2 of the EA/MND. As stated within this section for Threatened and Endangered Species, eight desert tortoise burrows were documented during the baseline surveys. The BLM did not require baseline surveys to include underground mine workings. The EA/MND analyzes effects resulting from surface disturbance only. Underground exploration is not analyzed in the EA/MND as it is not subject to permitting under the 43 CFR 3809 Surface Management regulations and is therefore not under the decision-making realm of the BLM as it pertains to the proposed Project. However, the proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground mine workings to inform the underground exploration activities; the proponent would use all available LiDAR data to make the best effort to avoid drilling through voids in underground workings. The LiDAR data would also support the technical and economic feasibility of surface drill siting in order to avoid the known voids in the underground workings, which may include areas where various wildlife species may be present, including desert tortoise and/or bat species.</p> <p>The PDF-11 to implement a 500-foot avoidance buffer for surface drilling around features with evidence of use by BLM sensitive bat species is in compliance with Volume IV Section 7 Biological Resources in the DRECP Final EIS (BLM 2015) for implementing an avoidance setback of 500 feet around known bat roosts. Also, several mitigation measures have been included in Table F-3 of Appendix F of the EA/MND that would be required for implementation in addition to applicant-committed PDFs to further avoid potential impacts to wildlife.</p> <p>Further, please note that Table 3-32 contains the environmental checklist for biological resources pursuant to CEQA and is a part of the Initial Study analyzed</p>

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				by Imperial County. This analysis was conducted in accordance with CEQA per Imperial County processes for analysis in an Initial Study. The Imperial County EEC has approved of the Initial Study determinations included within the EA/MND to move forward to an MND per the analysis conducted in Section 3.23.5. BLM impact analysis criteria for wildlife is discussed in Section 3.23.3.
24.0	24.2	Individual	<p>1) BLM proposes a 500-foot surface disturbance buffer around maternity roosts serves. I am concerned that this will not adequately ameliorate or mitigate the underground effects the Proposed Action could have on potentially pregnant bat females and even desert tortoises. Mainly because the disruption isn't so much about noise per se but rather particle vibration and the way sound or energy moves through earth. This varies significantly depending on the local geology and soils in the area. Therefore, it is wrong to assume that this is a one size fits all mitigation effect.</p> <p>Forced vibrations can create an inhospitable environment if Reverse Circulation (RC) drillings do not observe an underground buffer zone. Reverse Circulation drillings usually create 6-inch diameter holes (Fred Croxen, AWC Geology Professor pers comm). This is particularly important to consider in Drill Area 3 where previous underground workings may have incidentally created subterranean habitat for bats and Desert tortoises.</p> <p>Drilling can create disturbance not only through noise and simple vibration, but also through resonance. This occurs when a system is continuously driven by an external agency. Resonance occurs when the riving frequency approaches the natural frequency of free vibrations. The result is a rapid take-up of energy by the vibrating system, with an attendant growth of the vibration amplitude. Ultimately, the growth in amplitude is limited by the presence of damping, but the response can, in practice, be very great. It is said that soldiers marching across a bridge can set up resonant vibrations sufficient to destroy the structure (Encyclopedia Britannica).</p> <p>It is predicted that Desert Tortoises can perceive a wide variety of military sound sources and would be more sensitive to lower frequency sounds and vibrations (Delaney, D.K. 2002. Prioritization of Threatened and Endangered Species Sound Research on Army Corps of Engineers, Engineer Research and Development Center and the Construction Engineering Research Laboratory (ERDC/CERL TR-03-30).</p> <p>Bowles et al. (1999) tested tortoise sensitivity to ground-borne vibrations below 200 Hz and found that tortoises could still perceive vibrations down to 50 Hz. These data imply that tortoises can perceive a large portion of sound energy from military sound sources, especially in the lower portion of the frequency range. These may be the same frequencies that would be expected from the proposed drilling activities.</p>	<p>The PDF-11 states implementing a 500-foot avoidance buffer for surface drilling around features with evidence of use by BLM sensitive bat species is in compliance with Volume IV Section 7 Biological Resources in the DRECP Final EIS (BLM 2015) for implementing an avoidance setback of 500 feet around known bat roosts. Additionally, pre-construction desert tortoise surveys would be conducted by a BLM-approved Authorized or Qualified Biologist within the area to be disturbed, plus a 500-foot buffer, and the BLM-approved Authorized or Qualified Biologist would be onsite during Project activities. Additionally, several mitigation measures have been included in Table F-3 of Appendix F of the EA/MND that would be required for implementation in addition to applicant-committed PDFs to further ensure potential impacts to wildlife would be less than significant.</p> <p>The proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities. The proponent would use all available LiDAR data to make the best effort to avoid surface drilling through voids in underground workings (including roosts, mine shafts, and adits that may support bat species) and to use all available LiDAR data to inform surface drill siting. Furthermore, surface drill siting has been preliminarily located in the Plan of Operations based on geologic mapping and would be further developed should the Proposed Action be approved. Surface drilling relies on a constant circulation of fluids to lubricate the drill rig and bring samples to the surface; as such, lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void, such as an area with an open underground mine working. Surface drilling would not intersect with underground workings due to not only technical infeasibility, but also economic infeasibility given the potential loss of productivity of a drill site if it were to be sited in an area that would potentially intersect with an underground mine working.</p> <p>Acoustic modeling was conducted to determine the furthest distance that noise generated by the Proposed Action would travel, attenuating at 25 dBA, a nearly imperceptible level of noise to the human ear (Saxelby 2022). The BLM did not identify wildlife sensitive receptors during baseline data collection for noise and/or vibrational impacts as a result of drilling activities. The Project would be</p>


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				temporary and not stationary to one location as Project activities would move between each Drill Area. CMA LUPA-BIO-12 would also be implemented to mitigate noise impacts to BLM special status and sensitive wildlife species (including threatened and endangered species), as described in Appendix F of the EA/MND. Potential impacts to Mojave Desert tortoise under the Proposed Action are anticipated to be either avoided or mitigated to less than significant levels through the implementation of the measures described in Appendix F of the EA/MND. Furthermore, the BLM has engaged in consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.
24.0	24.3	Individual	2) I feel there needs to be a better knowledge of species presence or absence at targeted areas to better estimate the real impacts that the Proposed Action may have on current and future bat populations. At Drill Area 1, there need to be measures to ensure that drill rods will not perforate through previously created holes that may currently be used by bats and desert tortoises as well as other wildlife habitat. According to Professor Fred Croxen "Drill Area 1 is adjacent to the open pit and drill holes could likely encountered old buried underground workings." An updated underground map needs to be created to show potential habitat areas near the Proposed Actions. Wildlife surveys should then be conducted to determine areas that are currently occupied.	Please refer to the response to Comment #24.2 regarding the use of LiDAR mapping to assist with surface drill siting. The proponent would use all available LiDAR data to make the best effort to avoid surface drilling through voids in underground workings and to use all available LiDAR data to inform surface drill siting. Additionally, pre-construction surveys would be conducted prior to all surface disturbance to identify any wildlife, including special status species presence and determine any addition impact minimization or avoidance measures that may be required at the time of drilling. Underground surveys are not determined to be required at this time, and underground activities are outside the scope of this EA/MND, which analyzes impacts of surface disturbance under the BLM's jurisdiction over the Plan of Operations pursuant to 43 CFR 3809 Surface Management Regulations, and Imperial County's jurisdiction over the Reclamation Plan pursuant to SMARA.
24.0	24.4		3) I also believe that the assumption (page 106 on the EA) that MACA bat species may likely benefit from light sources the machinery and actions will bring to the area is erroneous. To my knowledge, MACA are not found to forage around lights sources that are concurrently used by drilling operations. These bat species have feeding habits that differ from other insectivorous bats feeding behaviors. In addition, MACA are particularly susceptible to disturbance and development and would not be expected to benefit from these types of artificial structures.	Although some of the known bat species with potential to be present within the Project Area do not depend on "hawking" insects from the air and therefore would likely not be drawn to insect population that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on "hawking" insects rather than foraging from the ground and/or vegetation; therefore, the creation of a source of light that would attract insects and thus some species of foraging bats is considered a potential impact under the Proposed Action. Shielded lights on drilling equipment is a standard equipment feature that would be used during nighttime drilling to limit visual impacts from night lighting in the Project Area and is not included as a mitigation measure.

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24.0	24.5	Individual		<p>Impacts to the Picacho ACEC anticipated to occur under the Proposed Action are described under Section 3.5.3 of the EA/MND, and would be negligible, short-term, and localized with the implementation of the PDFs and relevant CMAs per Appendix F of the EA/MND. Additionally, cumulative impacts to wildlife species are analyzed under Section 3.23.6. Existing past, present, and reasonably foreseeable future actions analyzed by the BLM include those that are tangible in analyzing cumulative surface disturbance impacts, including mineral development and exploration projects, utilities and infrastructure public purpose projects, oil and gas pipelines, roads and railroads, and dispersed recreation. Direct and indirect impacts as a result of several aspects of the Proposed Action are disclosed under Section 3.23.3. Overall, impacts to wildlife species, including threatened and endangered species (i.e., desert tortoise) would be minor, short-term, and localized.</p>

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			 <p>My other more general observations of this Proposed Action are that I am concerned that BLM would consider exploration mining and drilling activities in lands designated as Area of Critical Environmental Concern (ACEC). Also, the effects of the Proposed Actions should be considered in light of the cumulative effects of other factors that wildlife in the area are currently facing. These include habitat fragmentation, habitat degradation, climate change, other non-related anthropogenic effects, disease, vandalism, soil erosion, and environmental pollution.</p> <p>Thank you for the opportunity to provide comments on this important project.</p>	
25.0	25.1	Quechan Indian Tribe	<p>RE: SMP Gold Corp. – Environmental Assessment / Mitigated Negative Declaration for the Proposed Oro Cruz Exploration Project, Imperial County, California</p> <p>Dear Ms. Sahagun:</p> <p>We would like to provide the following comments on the above referenced project.</p> <p>The proposed project location is sited within an area that is highly significant to the Quechan Tribe. This is a location that the Tribe attaches great cultural, religious and spiritual significance to. The Quechan Tribe objects to the proposed mining project and the proximity of the operation to a</p>	<p>Thank you for your comment. The Fort Yuma Quechan Indian Tribe identified that the proposed Project is located within a larger landscape they consider a Traditional Cultural Property; the BLM requested additional information about the nature and extent of the Traditional Cultural Property as part of its Government-to-Government consultation, as well as for Section 106 of the NHPA consultation and relevant to other EOs and regulations. The BLM recognizes the attributes that give Traditional Cultural Properties significance, such as their association with historical events or traditional practices, are often intangible in nature. As stated in Section 3.8 of the EA/MND, all known cultural resource sites would be avoided thus minimizing direct impacts. No adverse</p>

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			<p>significant cultural landscape and Traditional Cultural Place (Traditional Cultural Property), that is essential to the cultural patrimony of the Quechan people and will directly impact the religious, spiritual, and everyday lives of the Quechan people.</p> <p>Although the proposed project will be utilizing locations that have been disturbed by previous mining activities, the project location is within the Picacho Area of Critical Environmental Concern, which contains significant religious, cultural and biological resources for the Tribe. These cultural and biological resources are still integral to the Quechan culture, religion, and spiritual practices and therefore, any impact to the area would cause great harm to the overall cultural practices of the Tribe.</p> <p>The location holds its significance to the Quechan People as a part of a greater cultural, religious and spiritual landscape that is entwined with origin stories, traditions and ceremonies, and the cultural patrimony of the Quechan People. The Quechan Tribe considers this landscape a Traditional Cultural Place (Traditional Cultural Property). This location has a specific name within the Quechan language. As stated previously, this landscape is associated with the cultural practices, religious beliefs and history that are important to the Tribe to continue and maintain the Tribe's cultural identity. The large number of trails, geoglyphs, ceramics, etc. in this location is proof of the long-term history, continued use and significance of this area to the Quechan people and the connection of this location to the broader cultural landscape in this region. The Quechan people still utilize this area today in various cultural capacities. The preservation of this area is essential to continue the cultural, religious and traditional practices and teaching of future generations of Quechan youth.</p> <p>This location is tied to the origins of song cycles which live within this landscape. These songs specifically reference and speak of the landscape contained within the proposed project area. These songs are still sung today by the Quechan people. Therefore, they are still a part of everyday life and tie the Quechan people to these places. Use of this landscape for the proposed project would be a direct assault on the preservation of the history, culture and religion of the Quechan people, and for that reason this landscape must be preserved for the Quechan culture to continue.</p> <p>We feel that the NEPA assessment of this project should be elevated to an Environmental Impact Statement due to the potential significant adverse impacts this project will create. A more thorough environmental review is required to assess the impacts to the ACEC, ESA species, cultural resources and the Traditional Cultural Place named by the Quechan Tribe</p>	<p>impacts would occur with avoidance measures implemented. The BLM would require additional mitigation measures to minimize indirect impacts to known cultural resource sites, as described in Section 3.8.3 and Appendix F of the EA/MND, resulting in indirect impacts being negligible, short-term, and localized.</p> <p>Furthermore, federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
25.0	25.2	Quechan Indian Tribe	<p><u>EA/NMD Comments</u></p> <ul style="list-style-type: none"> • Section 3.8.2 Affected Environment - Delineation of the Area of Potential Effect (APE) and Visual, Auditory, and Atmospheric Effects (VAA) - We disagree with the physical APE and the VAA APE as determined by the BLM. The VAA was determined by BLM ECFO and Stantec Consulting without any input from the Quechan Tribe 	<p>The VAA APE was developed through a combination of the Visual and Auditory APEs. The BLM determined that the Visual and Auditory APEs would encapsulate potential Atmospheric effects as well. The viewshed analysis to develop the VAA APE utilized topographic maps, aerial imagery, ArcGIS software, publicly available Digital Elevation Model (DEM) surface data, and the proposed Project's layout, as further described in Section 3.21 of the EA/MND</p>

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			<p>regarding identification of sites or locations potentially deemed sacred or traditionally important to the Quechan Tribe. Why was the VAA APE determined by Stantec and the BLM without consultation with the Quechan Tribe? How can Stantec and the BLM determine traditional, religious and culturally significant sites for the Quechan Tribe? The VAA must include input from the Tribe to accurately assess the effects/impacts of the proposed project to the Quechan people. Consequently, the results of the VAA are irrelevant, because there was no input on the cultural, religious, and spiritual effects of this project on the Quechan people.</p> <p>Further, the VAA APE does not include all sites that have been previously identified within the VAA, some of which are eligible for the NRHP. Additionally, the BLM has not assessed the impacts of the proposed project on the Traditional Cultural Property named by the Quechan Tribe.</p>	<p>and the Oro Cruz Indirect Visual APE Memo (Stantec 2022a). The noise modeling to develop the Auditory APE utilized noise modeling software to detail the furthest distance where potential Project noise would attenuate to an imperceptible or nearly imperceptible level with the maximum drilling activities being conducted, as described in Section 3.15 of the EA/MND and the Oro Cruz Indirect Auditory APE Memo (Stantec 2022b). The VAA APE took into account the scale and nature of the undertaking relative to known cultural/historic properties of concern and accounted for site-specific variables such as topography and height of the equipment proposed for the Project. The VAA APE and associated analysis of known cultural and historic properties was included in the Class III Cultural Resources Inventory Report and provided to all Section 106 of the NHPA consulting parties, including Tribes, for a 30-day review and consultation period. As a result of this consultation, and specifically due to the information provided by the Quechan Indian Tribe, the sites included within the VAA APE was updated. These sites, the Traditional Cultural Property and the sites within the physical effect APE were included in the BLM's findings and determinations under Section 106 and a no adverse effect determination was the outcome. The status of the Section 106 process and tribal consultation is discussed in Sections 3.8, 3.14 and 4.12.</p>
25.0	25.3	Quechan Indian Tribe	<p>Section 3.8.3 – BLM Required mitigation measures – Page 33 - The proposed periodic archaeological monitoring should be conducted by the Quechan Tribe. The full impact of the Proposed Actions can only be adequately assessed by the Tribe and therefore, a Quechan Tribal Cultural Monitor should be conducting the monitoring during any project activities.</p>	<p>Should the Proposed Action be approved and, as such, the cultural monitoring commences upon Project initiation, the BLM will contact all tribes that have engaged in Government-to-Government consultation with the opportunity to participate as Tribal Cultural Monitors to conduct the BLM-required archaeological monitoring.</p>
25.0	25.4	Quechan Indian Tribe	<p>Section 3.85 – 3.146 Impact Analysis (CEQA) – The CEQA analysis conducted by Imperial County is inadequate and does not assess the impacts to Tribal Cultural Resources. The EA/MND asserts that the Quechan Tribe did not respond to the AB 52 consultation notification, however this is an incorrect statement. The Quechan Tribe did notify Imperial County of their desire to engage in consultation for this project.</p>	<p>The Imperial County Planning Department distributed an AB 52 consultation letter for the proposed Project on September 9, 2021. Specifically, Project information, a map, and contact information was sent to the Fort Yuma Quechan Indian Tribe. Due to the geographic location of the Project, the Fort Yuma Quechan Indian Tribe is the only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52. Imperial County did not receive a response to this consultation letter from the Fort Yuma Quechan Indian Tribe; however, Imperial County has participated in the Section 106 of the NHPA process being conducted by the BLM.</p>
25.0	25.5	Quechan Indian Tribe	<p>Section 3.14 Native American Religious Concerns and Traditional Values - This section does not include any of the information the Quechan Tribe has provided to the BLM ECFO regarding the Tribes' cultural and religious connections to this area. Additionally, the BLM ECFO is in possession of ethnographic materials which contain information on the significance of this location to the Quechan Tribe. However, none of that information is included. BLM ECFO continues to request that the Quechan Tribe provide additional information on their connections to the area and the</p>	<p>Please refer to the response to Comment #25.1. The status of tribal consultation and the Section 106 process is located in Sections 3.8, 3.14 and 4.12. The BLM utilized the information provided regarding the Traditional Cultural Property to update the EA and make its findings and determinations under Section 106.</p>

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			significance of the area to the Tribe without first reviewing the information that the Tribe has provided over several decades. This fact speaks to the lack of adequate review and analysis of pertinent project information provided by the Quechan Tribe to the BLM ECFO. Therefore, this EA/MND is wholly inadequate.	
25.0	25.6	Quechan Indian Tribe	Table 3-19 BLM and Tribal Meetings on the Proposed Action to Date – Please explain why this table includes monthly project coordination meeting between the BLM ECFO archaeologist and the Quechan Tribe HPO? Although the listed meetings were conducted, these meetings were not specific to this project and new information on the project was rarely provided during these meetings.	All meetings included in Table 3-19 are a part of the BLM’s consultation processes for the Project including consultation under Section 106 of the NHPA . The monthly project consultation meetings provide important cultural resources information sharing opportunities about this Project as well as others that the Quechan Indian Tribe is interested in.
25.0	25.7	Quechan Indian Tribe	Section 3.14.5, page 50, paragraph 5 – The first sentence of this paragraph states that SMP has engaged with the Fort Yuma Quechan Indian Tribe regarding the Project. Please explain this statement. The proponent has not specifically engaged in any way with the Quechan Tribe. This statement should be removed from the document.	SMP has reached out to engage in informal consultation with the Quechan Tribe outside of the BLM’s Section 106 of the NHPA consultation process. Emails were sent in April, June, and July 2021 by SMP to the Quechan Tribe, and in October, a member of the Tribe accompanied the Class III Cultural Resources Inventory field survey. In January 2022, SMP present the proposed Project to the Quechan Cultural Committee via a virtual meeting, and email correspondence continued in January and March 2022 regarding potential site visits and presentation follow up. SMP conducted a site visit in September 2022 with the Quechan Cultural Committee, and attended a virtual meeting with SHPO, BLM, and Quechan Cultural Committee also in September 2022.
25.0	25.8	Quechan Indian Tribe	Figures 1-1 through 3-14 - Many of these maps do not contain a legend. We have no idea what these maps are depicting and therefore cannot properly review these items and their context with the NEPA/CEQA analysis	A legend is present in the lower right corner of the map extent in all figures included in the EA/MND.
25.0	25.9	Quechan Indian Tribe	Appendix F: Project Design Features, Conservation Management Actions and Mitigation Measures – These actions and mitigation measures were created without input from the Quechan Tribe. Given that the impacts will directly affect the Quechan Tribe, specific input from the Tribe should have been requested during the creation of any conservation actions or mitigation measures.	Throughout the Section 106 consultation process and during the NEPA analysis, the BLM has determined that the additional mitigation measures that would be required under the Proposed Action in addition to the applicant-committed PDFs and the land use plan required CMAs would be sufficient in ensuring that no adverse impacts would occur to any of the resources identified to require additional mitigation. Mitigation measures, described fully in Appendix F of the EA/MND, include development of a cultural monitoring and inadvertent discovering plan, a safeguard that all known culturally sensitive areas within 100 feet of ground disturbance and access roads will be monitored and protected by barrier fencing, and periodic archaeological monitoring that is recommended for participation by Tribes in addition to the contracted archaeologist.
25.0	25.10	Quechan Indian Tribe	Appendix F – NLCS-CUL-1, ACEC-CUL-6 – Please explain how Section 106 will be implemented in reference to these two CMAs.	NLCS-CUL-1 is a CMA required for implementation in accordance with the DRECP LUPA. The BLM has concluded its Section 106 consultation process and determined that there are no adverse effects to Historic Properties. Please refer to the Section 106 status updates and tribal consultation information located in Sections 3. 8, 3.14 and 4.12. ACEC-CUL-6 is also a CMA required for implementation in accordance with the DRECP LUPA. The proponent has committed to avoidance of all known cultural resource sites, and the BLM

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				developed additional mitigation measures (M-5 through M-7) that would be required for implementation under the Proposed Action, as outlined in Table F-3 of Appendix F of the EA/MND.
25.0	25.11	Quechan Indian Tribe	Appendix F, Table F-3: Required Mitigation Measures – The proposed monitoring should be conducted by the Quechan Tribe not archaeologists. Any impacts from this project would be best assessed by the Tribe as this area is culturally and religiously significant to the Tribe.	The BLM acknowledges that the Fort Yuma Quechan Indian Tribe requests to be involved in archaeological monitoring for the proposed Project, as described in Mitigation Measure 7 (M-7). Should the Project be approved, the BLM would coordinate with SMP accordingly to contract with the appropriate archaeologists and tribal contacts to conduct the required monitoring.
25.0	25.12	Quechan Indian Tribe	Appendix G: Issues Considered as Part of the NEPA Analysis – This table does not include an analysis of the Traditional Cultural Property. Additionally, the assessments of the ACEC, Cultural Resources and Native American Religious Concerns are inadequate. BLM ECFO and Imperial County have not engaged in consultation with the Quechan Tribe regarding the Traditional Cultural Property, ACEC, and Native American Religious Concerns. Although the Tribe has provided ample information on the significance of the project location to the Tribe, provided comments on the Cultural Resources Survey Report, and provided information via letters and meetings to BLM, they have failed to address the concerns raised by the Tribe or respond to the comments and concerns that the Tribe has provided.	Please refer to the response to Comment #25.1 and the updated information located in Sections 3.8, 3.14 and 4.12.
25.0	25.13	Quechan Indian Tribe	<p>We would like to point out that this letter does not contain a comprehensive review of the EA/MND by the Historic Preservation Office (HPO). This office requested additional time to review this document due to internal issues that limited the review process time frame, however BLM ECFO refused to grant the requested two additional weeks for the HPO to have time to completely review the document.</p> <p>The Fort Yuma Quechan Tribe would like to continue consultation on this project with the BLM. More discussion on the effects of this project and its impact to the Quechan Tribe must occur before any further decisions on this project are made. If you have any questions or need additional information, please feel free to contact the Historic Preservation Office.</p> <p>Sincerely, H. Jill McCormick Historic Preservation Officer</p>	<p>The BLM adhered to the timeline for the public comment period, which was a 31-day public comment period from November 16 through December 16, 2022 and which took into account the Thanksgiving holiday.</p> <p>The BLM will continue to engage with the Fort Yuma Quechan Indian Tribe through Government-to-Government consultation.</p>
26.0	26.1	California Native Plant Society	<p>Re: California Native Plant Society Comments on Oro Cruz Exploration Project DOI-BLM-CA-D070-2022-0012-EA</p> <p>Dear Ms. Martinez:</p> <p>Thank you for the opportunity to comment on the Environmental Assessment/Mitigated Negative Declaration (EA/MND) for the Oro Cruz Exploration Project. The following comments are submitted on behalf of the California Native Plant Society (CNPS), a non-profit environmental organization with over 12,000 members in 36 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plant heritage and preserve it for future</p>	<p>Thank you for your comment. As stated in Section 3.5.3 of the EA/MND, the Project would avoid the resources the Picacho ACEC was designated to protect, including biological and cultural resources. Additional CMAs and mitigation measures would be required by the BLM to minimize impacts, as outlined in Appendix F of the EA/MND, and impacts to the Picacho ACEC would be negligible, short-term, and localized.</p> <p>Baseline conditions (i.e., affected environment) are presented within Chapter 3 for all resources that were identified as Present and Potentially Affected and were</p>

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			<p>generations through the application of science, research, education, and conservation. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices.</p> <p>This EA/MND claims that the impacts from this project are expected to be negligible, short-term, and localized, but the project does not adhere to Area of Critical Environmental Concern (ACEC) management requirements or local ordinances, fails to adequately establish baseline conditions on the project site, and does not consider impacts to seasonal waterways and sensitive natural communities. Approving exploration would lay the groundwork for future mining projects in this area and this exploratory project should not be pursued. At a minimum, the BLM needs to properly establish baseline conditions for special-status and locally protected plant species through protocol-level floristic surveys and circulate a revised environmental review document. Given the potentially significant impacts and unique ecological and cultural resources in the area, the BLM should prepare an EIS that accurately analyzes the project's potential impacts to botanical resources.</p>	<p>thus analyzed for potential impacts under the Proposed Action. Baseline conditions for assessing the affected environment were gathered from literature reviews, recently collected and publicly available data, and baseline surveys where required by the BLM.</p> <p>Impacts to surface and groundwater under the Proposed Action, including water quality, would be negligible, short-term, and localized per the analysis provided in Section 3.22.3. Additionally, the Project would acquire the necessary waters of the state permitting, including the Lake and Streambed Alteration Agreement with the California Department of Fish and Wildlife, and a Construction Stormwater General Permit with the Regional Water Quality Board pursuant to California State Water Resources Control Board requirements.</p> <p>Biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Impacts to vegetation were analyzed accordingly based on baseline conditions under Sections 3.20.3, 3.20.5, and 3.20.6 in the EA/MND.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by the CEQ. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>
26.0	26.2	California Native Plant Society	<p>Picacho Area of Critical Environmental Concern</p> <p>While mineral exploration and development is not prohibited in the Picacho ACEC, introducing mining would not align with the management objectives of protecting critical desert tortoise habitat and other biological resources and preserving the wilderness character of the area. The Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. § 1712 Sec. 202 (c)(3)) requires the BLM to prioritize the protection of ACECs. As defined, ACECs are “public lands where special management attention is required to protect and prevent irreparable damage.” This exploratory action could lead to a full scale mining operation which would have much greater impacts than exploration alone. Allowing exploration opens the door to future mining in this area, which would</p>	<p>As analyzed under Section 3.5.3 of the EA/MND, impacts to the Picacho ACEC would be negligible, short-term, and localized. In addition to the applicant-committed PDFs to avoid the resources that the Picacho ACEC was designated to protect, the relevant CMAs in compliance with the DRECP LUPA would be implemented, as outlined in Appendix F of the EA/MND. This EA/MND analyzes only the proposed exploratory drilling activities associated with the Oro Cruz Exploration Project. Cumulative impacts have been analyzed including reasonably foreseeable future actions that are associated with plans and/or notices that have been submitted to the BLM, as analyzed within Chapter 3 of the</p>

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			<p>contradict the mandate to prioritize protection or uphold the initial intent of the designation of this ACEC. We urge the BLM to prioritize the conservation of the biological resources in the Picacho ACEC and to not jeopardize its ecological values by re-introducing mining operations into the area.</p>	<p>EA/MND. The BLM does not consider any actions that have not submitted notices or applications with a developed plan as a reasonably foreseeable future project. Any future proposed additional surface disturbance and/or project plans outside of the current analysis would be subject to individual future NEPA analysis at a level deemed appropriate by the BLM.</p>
26.0	26.3	California Native Plant Society	<p>Special-Status Plant Species The plant lists from the WestLand and Stantec surveys are inconsistent with each other, and both include inaccurate scientific names and may have potentially misidentified <i>Prosopis juliflora</i> (which does not appear to be native to this area). In light of these flaws, neither survey effort seems to be accurate or comprehensive enough to establish baseline conditions. The EA/MND concludes that the project will result in disturbance of 20.54 acres of potential habitat for special status plant species, but that “no direct impact to sensitive plant species would occur from direct removal of individuals or populations.” (Section 3.20.2, p. 79). This conclusion apparently is based on the statement that “No special status plant species have been identified within the Project Area,” which is based on an inaccurate baseline setting and is contradicted by the evidence provided in the EA/MND. The EA/MND states that no special-status plant species have been identified in the project area, however pink fairyduster (<i>Calliandra eriophylla</i>) was identified during the WestLand Resources survey in tables 1 and 6, although it was mis-spelled as <i>Cylindropuntia eriophylla</i> in table 1. The map in figure 7 appears to show the pink fairyduster being located in drill area 2. These surveys are insufficient to conclude that additional habitat assessments or surveys would not be required, as stated in LUPA BIO-1. It is unlikely that project work would occur at a time that monitors would be able to accurately identify special status plant species, as described in PDF-33, and therefore it is unlikely that impacts to occurrences of this species will be adequately avoided or minimized.</p> <p>An EIS should be prepared that includes appropriate botanical surveys, so that the analysis of potential impacts can be based on an accurate environmental baseline. As stated by WestLand on page ES-1 “Plant species observations do not represent a complete floristic survey.” According to the California Department of Fish and Wildlife’s (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (protocols),¹ “Botanical field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on a list.” The EA/MND should describe the baseline physical conditions on the project site through which the lead agency will determine whether an impact is significant (CEQA Guidelines, § 15125(a)(1)), and shall succinctly describe the environment of the area(s) to be affected (NEPA Guidelines, § 1502.15). The failure to conduct floristic surveys precludes the agency from being able to accurately establish the baseline physical conditions, and thereby precludes the EA/MND from meeting the CEQA and NEPA mandates of making an evidence-based determination of the project’s impacts to botanical resources and mitigating those impacts if they are significant. The CDFW protocols recommend the following regarding the extent, timing, and number of surveys that would be needed to capture baseline conditions:</p>	<p>No BLM special status plant species were found within the Project Area or the vegetation area of analysis (the Project Area plus a 500-foot buffer) during the March 2021 biological baseline surveys, which included vegetation baseline surveys (WestLand 2021). All data sheets are included within the Biological Resource Technical Report and Assessment appended to the EA/MND.</p> <p>The January 2021 desert tortoise baseline surveys included incidental vegetation sightings while in the field but did not include a complete habitat evaluation or vegetation inventory as such work was outside the scope of the desert tortoise surveys (Stantec 2021).</p> <p>The pink fairyduster plant is listed as a CEQA special status species and is not a BLM special status species, as delineated in the biological baseline report (WestLand 2021). Figure 7 of the Biological Resource Technical Report and Assessment shows historical occurrences of special status species within the analysis area. During the field survey to validate the desktop analysis, pink fairyduster (<i>Calliandra eriophylla</i>) was identified in low densities within the central portion of the proposed Project area within the desktop delineated micro <i>Parkinsonia florida</i>—<i>Olneya tesota</i> vegetation category. Additional clarifying text has been added to Section 3.20.2 of the EA/MND, and Figure 3-8 of the EA/MND was revised to visualize the desktop-delineated vegetation categories as well.</p> <p>According to Imperial County Ordinance code 12.48.40 & 12.48.50 "it is unlawful for any person, firm or corporation to dig up, remove, mutilate, or destroy any [species] of the following varieties....growing upon public or private land in the county of Imperial, without a permit issued by the board of supervisors of Imperial County, EXCEPT by the owner of such land, or with the written consent of such owner.". The BLM is the sole owner of the land where the project is proposed. The signing of the FONSI and Decision Record is written consent of the BLM to the project proponent to conduct their project within the parameters of the Plan of Operations and in accordance with applicable CMAs. LUPA-BIO-7 states that DRECP vegetation types of Focus that may be affected by ground-disturbance and/or vegetation removal would be restored including but not limited to "Salvage and relocate cactus, nolina, and yucca from the site prior to</p>

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			<p>Survey Extent - “Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts.”</p> <p>Timing and Number of Visits - “Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area. This usually involves multiple visits to the project area (e.g., in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine if special status plants are present. The timing and number of visits necessary to determine if special status plants are present is determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which botanical field surveys are conducted.”</p> <p>The BLM’s Survey Protocols Required for NEPA and ESA Compliance for BLM Special Status Plant Species (CA IB-2010-012) echo many of the CDFW guidelines, and should be followed to identify special status plant species in this DEIR.</p> <p>“A single inventory on a single date will seldom suffice. For example, when one special status plant species suspected to be in the inventory can only be found and identified in April and another species can only be located and identified in August, at least two inventories are necessary.”</p> <p>“In advance of the project site inventory, contractors should visit known populations of the target species in similar habitat conditions to determine current-year growth conditions and phenology. If, based on these visits to known populations, it appears likely that the project site inventory will fail to detect occurrences because of drought conditions (as may be the case for annual plant species or geophytic plants), BLM may require contractors to perform additional inventories in the following year.”</p> <p>There is no indication that reference sites of known populations were used to verify that special-status populations would be detectable. The Stantec surveys were conducted in January and the WestLand surveys were conducted in March. The March survey may have been able to identify many species, however this survey was on the leading edge of the bloom period for <i>Croton wigginsii</i> and <i>Pholisma sonora</i>, and without establishing reference sites it is unsure whether these species would have been identifiable during these surveys. A nine-quad CNPS Rare Plant Inventory search of the surrounding area showed that <i>Colubrina californica</i>, <i>Koeberlinia spinosa</i> var.</p>	<p>disturbance using BLM protocols." SMP's reclamation plan incorporates reclamation of temporary access roads created by the Project and SMP would follow all applicable CMAs and PDFs. No BLM special status species were identified within the vegetation area of analysis. A habitat assessment in accordance with LUPA-BIO-1 was conducted as part of the biological baseline report (WestLand 2021) for species with potential to occur or may have suitable habitat in the Project Area or vicinity; therefore, this CMA would not be required to be implemented under the Project in addition to the applicant-committed PDFs, additional CMAs, and BLM required additional mitigation (outlined in Appendix F of the EA/MND).</p> <p>Please refer to response to Comment# 26.1 regarding the BLM’s determination to prepare an EA and issue a FONSI. Plant species observed in the field during the March 2021 biological baseline surveys do not represent a complete floristic inventory as it is representative of the species that were identified during the surveys and may not be representative of species that are present year-round.</p> <p>The text of the BLM required mitigation measures in Table F-3 of Appendix F of the EA/MND, M-8 and PDF-34 has been clarified to state the pre-construction surveys conducted prior to surface disturbance would include vegetation surveys to ensure that no special status plants are present within areas proposed for disturbance. Appropriate biological monitoring and avoidance measures would be coordinated with the BLM should special status plants be identified during Project implementation. Please note that per Appendix B and Table F-2 of Appendix F of the EA/MND, LUPA-BIO-2 would not be required for implementation under the Proposed Action as required pre-construction surveys and continued monitoring would take place during all phases of the Proposed Action by a BLM Authorized Biologist.</p>

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			<p><i>tenuispina</i>, and <i>Panicum hirticaule ssp. hirticaule</i> all have the potential to occur here, and all bloom outside of the window of the surveys. These surveys need to be conducted not only during times when plant species would be identifiable, but also in years with sufficient rain that they would be identifiable, as verified by reference sites.</p> <p>Chapter 12.48 of the County Code of Ordinances prohibits the destruction (e.g., dig up, remove, mutilate, or destroy) or disturbance of specific tree and flower species. Though the EA states that none of these species were found in the project area, two of these species appear in table 1 (Plant species observed in the Analysis Area during the field survey) of the WestLand Resources Biological Resources Technical Report. The beavertail pricklypear (<i>Opuntia basilaris</i>) and ocotillo (<i>Fouquieria splendens</i>) are both protected from destruction or disturbance. The locations of these species should be recorded during the floristic surveys recommended above, along with any other locally protected or special-status species that are discovered. Any additional protected or special-status species should be analyzed for potential impacts and added to figure 7.</p> <p>The description of pre-construction surveys performed pursuant to CMA LUPA-BIO-2 should be clarified to reflect that special-status plants would be identified and PDF-33 should be amended to include a requirement that pre-construction or pre-construction surveys be conducted to identify botanical resources.</p>	
26.0	26.4	California Native Plant Society	<p>Sensitive Natural Communities Though the 2021 baseline surveys done by WestLand stated that there were no streams or riparian areas located in the project area (page 102 of EA/MND), the map in figure 2-1 clearly shows a stream running directly through the project area. The road improvements running south from the existing access road into drill area 4 crosses through ephemeral streams and washes of Tumco wash and the new permanent access road would impact the American Girl wash. The construction and improvement of these roads should be evaluated for impacts to these habitats, including the potential for introducing illegal OHV use to this area. Additionally WestLand identified Blue paloverde-ironwood alliance in xeroriparian habitat across 2% of the project area; this natural community is classified as sensitive by the CDFW. Creosote-brittlebush alliance covers 74% of the project area and is also listed by CDFW as a sensitive natural community. The potential impacts to the seasonal streams illustrated in figure 3.1 and the sensitive natural communities that make up the vast majority of the project area need to be addressed in an EIS.</p> <p>The Picacho ACEC is covered by the Desert Renewable Energy Conservation Plan (DRECP), and therefore the project must comply with all applicable Conservation and Management Actions (CMAs). LUPA-BIO-SVF-1 states that “For activity-specific NEPA analysis, a map delineating potential sites and habitat assessment of the following special vegetation features is required: Yucca clones, creosote rings, Saguaro cactus, Joshua tree woodland, microphyll woodland, Crucifixion thorn stands” and goes on to state that “Resource not found on the project site” although areas of microphyll woodland are present and would likely be impacted by the road improvements and by</p>	<p>The Tumco Wash, depicted on Figure 2-1 of the EA/MND is an ephemeral stream and conveys water only during storm events, as stated in Section 3.22.3 of the EA/MND. The Project would require a Construction Stormwater General Permit (CGP) pursuant to the Regional Water Resources Control Board National Pollutant Discharge Elimination System requirements, and a BLM approved SWPPP would be developed and implemented to control sedimentation from disturbance associated with Project activities. The Project would also require a Lake and Streambed Alteration Agreement with the CDFW pursuant to California Fish and Game Code Section 1602. Potential impacts to surface water quality would be minimized by the implementation of the PDFs outlined in Appendix F, as well as incremental reclamation. Additional CMAs would also be implemented to minimize resource conflicts and water quality impacts, described in Appendix F. The Proposed Action would have a negligible, short-term, and localized impact on surface water resources.</p> <p>All Project access roads would be used strictly for Project support vehicles to access the exploration Drill Areas, and they would be signed as having limited access to prevent public use. Please note that the text of the EA/MND has been clarified to state the proposed new access road leading to Drill Area 1 would not be permanent – it would remain as a post-surface exploration feature for reclamation, monitoring, and underground exploration activities until complete,</p>

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			<p>the new permanent access road. Despite being identified, the required map identifying microphyll woodlands is not included in the EA/MND. LUPA-BIO-SVF-6 goes on to say that “impacts to microphyll woodlands will be avoided, except for minor incursions,” citing the Glossary of Terms to define “microphyll woodlands” and “minor incursions” however this glossary does not appear to have been included in this document. The meaning of “minor incursion” is key to understanding the potential impacts to microphyll woodlands. The EA/MND fails to show that these CMAs have been followed.</p>	<p>which would occur within five years from Project implementation. Additionally, pre-construction surveys would be conducted prior to any surface disturbance activity, which would include vegetation surveys. Any results from the pre-construction surveys that may require additional impact minimization or avoidance measures would be coordinated with the BLM.</p> <p>As stated in Appendix B, LUPA-BIO-SVF-1 would be required to be implemented. Special status vegetation species specified have not been identified within the Project Area; however, a habitat assessment identified some limited areas of microphyll woodland, however, direct impacts from project disturbance to this habitat is not anticipated. Pre-construction surveys would occur prior to any surface disturbing activities as outlined in the measures in Appendix F of the EA/MND, and this CMA would be implemented as necessary in coordination with the BLM. Per Appendix B, LUPA-BIO-SVF-6 would be required for implementation upon identification of microphyll woodland occurrences during pre-construction surveys. Analysis of the provisions of the CMAs or associated CMA-developed documentation per the DRECP is out of the scope of this EA/MND and is thus not included as documentation; however, the DRECP Glossary of Terms has been included within Appendix B to supplement the CMA table. Microphyll Woodland consists of drought-deciduous, small-leaved (<i>microphyllus</i>), mostly leguminous trees and occurs in bajadas and washes where water availability is somewhat higher than the plains occupied by creosote bush and has been called the “riparian phase” of desert scrub (Webster and Bahre 2001). The BLM would require implementation of the relevant CMAs that were developed as part of the DRECP LUPA; those CMAs that would be relevant for implementation under the Proposed Action are identified in Appendix F of the EA/MND. The relevant CMAs would be implemented under the Proposed Action should the Project be approved by the BLM. t. An additional mitigation measure would be required by the BLM as listed in Table F-3 of Appendix F to avoid minor incursions to microphyll woodland during construction of the temporary portal access road, as potential presence of microphyll woodland may overlap with proposed disturbance of the road. Figure 3-8 of the EA/MND has been revised to show the mapped vegetation classifications delineated during the biological baseline surveys, as described below.</p> <p>Three CNPS vegetation categories were identified during pedestrian surveys: the <i>Parkinsonia florida—Olneya tesota</i> alliance, the <i>Larrea tridentata—Encelia farinosa</i> alliance, and the <i>Brassica (nigra)</i> and other mustards semi-natural stands ‘alliance’. A machine learning assisted analysis of the vegetation using the Supervised Classification tool in ArcGIS Pro 2.7 was performed on NAIP 2020</p>

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				imagery to help estimate the approximate horizontal space occupied by these three CNPS categories, keeping in mind that this kind of visualization exercise is not a perfect representation of the complex ecological reality on the ground. The CNPS vegetation categories were designed to provide nomenclatural frameworks for characterizing these complex vegetative realities and thus using them in a near-quantitative way should be accompanied with the caveat that a high level of abstraction and compression is occurring in the final data product. Consistent categorization would be expected if the classification were to be repeated using the same three CNPS vegetation categories with training input from a human interpreter/supervisor. The micro <i>Parkinsonia florida</i> — <i>Olneya tesota</i> vegetation category provides an estimate of the maximum extent of this habitat type within the analysis area. This vegetation category represents areas of potential microphyll woodland occurrences, as well as the area with the highest density of the pink fairy duster, a CEQA special status species.
26.0	26.5	California Native Plant Society	<p>We urge the BLM to not approve this application for exploratory drilling, as mining is not a desirable use for the area given the extensive environmental risks it poses to the natural resources, and mining is inconsistent with the management and protection of critical habitat and resources in the ACEC. The project should also not be approved until an EIS is produced to correct the errors in the botanical resources analysis and adequately describe the baseline conditions of the project site. Thank you for the opportunity to comment on this project and please contact me if you have any questions.</p> <p>Sincerely, Brendan Wilce Conservation Program Coordinator California Native Plant Society bwilce@cnps.org</p> <p>Attachment 1 CDFW 2018 Protocols</p>	Please refer to the response to Comment #26.1 regarding the BLM's determination that an EA is the appropriate level of analysis for the Proposed Action.
27.0	27.1	Native American Land Conservancy	<p>RE: Public comment period for the Oro Cruz exploration project</p> <p>Dear Ms. Martinez,</p> <p>I write on behalf of the Native American Land Conservancy to express serious concerns about the proposed SMP Gold Corp. Oro Cruz Exploration Project within the Picacho Area of Critical Environmental Concern. This excavation would take place at Indian Pass, the traditional cultural homelands of the Fort Yuma Quechan Tribe and a place of great spiritual significance.</p> <p>The Native American Land Conservancy (NALC) is a nonprofit, intertribal organization. Our mission is to acquire, preserve, and protect our sacred lands. We do this through land acquisition, education, cultural programming, and the survey and monitoring of Tribal historic properties. The</p>	<p>Thank you for your comment. The Indian Pass area is located outside the vicinity of the Project Area. The Project Area is located in the Cargo Muchacho Mountains.</p> <p>The BLM is currently engaged in Section 106 of the NHPA consultation with the Fort Yuma Quechan Indian Tribe, and consultation will be ongoing through the life of the Project.</p> <p>As a result of the Proposed Action, impacts to surface and groundwater resources would be negligible, short-term, and localized (Section 3.22.3 of the EA/MND). Potential impacts to air quality were found to be negligible, short-term and localized (Section 3.3.3 of the EA/MND), and Project emissions were below</p>

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			<p>NALC provides culturally appropriate protective management and stewardship of natural and cultural areas, engaging Tribal communities in California, Arizona, and Nevada. Through our Learning Landscapes program, we inspire Tribal youth to engage with their history and culture on the land.</p> <p>Indian Pass is of paramount importance to the continued health and wellbeing of the Quechan people. It is part of a greater interconnected landscape which they term a Tribal Cultural Place, and it is central to their day-to-day life and religion. It contains ancestral trails, cultural sites, sleeping circles, and other evidence of the Quechan people’s historic and continued presence in the area. The Oro Cruz Exploration Project would put future generations of Quechan people and their cultural survival in jeopardy.</p> <p>The processes required for gold mining - such as extensive topsoil removal - create irreparable and permanent harm to the land. Gold mines leak, despite assurances by companies to say otherwise, and they release contaminants such as arsenic, cyanide, and other hazardous materials. The 2015 Gold King Mine disaster, which contaminated the Animas River and endangered multiple Tribal communities, is just one example of the catastrophic consequences resulting from gold mining. The Oro Cruz Exploration Project would negatively impact the landscape’s water, air, and soil quality, creating dangerous outcomes for plants, animals, insects, and nearby communities long into the future. The Picacho Area of Critical Environmental Concern is also critical habitat for the threatened Mojave Desert Tortoise.</p> <p>The Oro Cruz Exploration Project threatens the entire ecosystem at Indian Pass, as well as the cultural heritage and religious values of the Quechan people. For centuries, Indigenous peoples across the United States have been greatly impacted by the damages caused by mining projects. This proposal, if approved, would continue this harmful legacy and cause irreversible damage to a landscape of great cultural, religious, and spiritual importance. Indian Pass is a sacred place of healing, growth, and learning for the Quechan people, and it must be protected for all future generations.</p> <p>NALC stands with the Fort Yuma Quechan Tribe in opposing the Oro Cruz Exploration Project proposal. Additionally, we request the Bureau of Land Management to require an Environmental Impact Statement to evaluate the comprehensive impacts of this proposal.</p> <p>Thank you for your consideration of this request. Please feel free to contact me at rprzeklasa@nativamericanland.org if you have any additional questions.</p> <p>Sincerely, T. Robert Przeklasa, Ph. D. Executive Director</p>	<p>applicable Federal and Imperial County thresholds. Although potential impacts were found to be less than significant, air quality and GHG emissions would be further mitigated by following the Project Design Features outlined in Appendix F of the EA. Impacts to soils would be minor, short-term, and localized (Section 3.18.3 of the EA/MND). Additionally, impacts to wildlife resources, including Mojave Desert tortoise, would be minor, short-term, and localized (Section 3.23.3 of the EA/MND), and impacts to vegetation would be minor, short-term, and localized (Section 3.20.3 of the EA/MND). All surfaces that would be disturbed under the Proposed Action would be reclaimed to pre-Project conditions.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by the CEQ. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>

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28.0	28.1	California Department of Fish and Wildlife	<p>Dear Mr. Abraham:</p> <p>The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND/EA from Imperial County Planning and Development Services Department (Imperial County) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.</p> <p>Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.</p> <p>CDFW ROLE</p> <p>CDFW is California’s Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.</p> <p>CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW’s lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in “take” as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.</p> <p>[This comment letter included a summary of the Proposed Action per the Plan of Operations and EA/MND. This summary has not been re-transcribed here and does not include a comment on the decision under review.]</p>	<p>Thank you for your comment. Imperial County confirms that the California Department of Fish and Wildlife (CDFW) is a responsible agency under CEQA and recognizes that the CDFW may exercise its own regulatory authority over certain aspects of the Project pursuant to the Fish and Game Code.</p>
28.0	28.2	California Department of Fish and Wildlife	<p>COMMENTS AND RECOMMENDATIONS</p> <p>CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist Imperial</p>	<p>Regarding CDFW’s comment on whether the EA/MND is the appropriate level of environmental documentation for the Project, as discussed under Comment #23.1 above, consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND</p>

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			<p>County in adequately identifying and/or mitigating the Project’s significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The MND/EA has not adequately identified and disclosed the Project’s impacts (i.e., direct, indirect, and cumulative) to biological resources and whether those impacts are less than significant. Moreover, CDFW is concerned that an MND/EA may not be appropriate for the Project because of the potential for significant impacts that have not been mitigated to a level that is less than significant. CDFW’s comments and recommendations on the MND/EA are explained in greater detail below and summarized here.</p>	<p>can be adopted (§21080). Specifically, the statute provides that MNDs may be used, “when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County also held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-member panel representing various County agencies/organizations. The hearing/Project was also properly noticed as part of the EEC process, and County Planning Staff consulted with all appropriate County Departments, as well as all applicable local, state and federal agencies. Through this public process, the EEC determined that the mitigation measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of review/documentation for the Project.</p>
28.0	28.3	California Department of Fish and Wildlife	<p><u>Project Description</u></p> <p>CEQA is predicated on a complete and accurate description of the proposed Project. Without a complete and accurate project description, the MND/EA likely provides an incomplete assessment of Project-related impacts to biological resources. CDFW has identified gaps in information and discrepancies related to the project description.</p> <p>The MND/EA (Section 3.22.5) states the “Project would not consume groundwater from the Imperial Valley Groundwater Basin.” However, a contradictory statement appears in Section 3.22.5, which indicates “groundwater may be encountered during the course of exploratory drilling within the Drill Pads,” and no groundwater on-site will be affected. Groundwater is critical for the sustainability of natural ecosystems. However, if the connection between groundwater-dependent ecosystems and groundwater is lost from unsustainable pumping practices, the result could be depleted streams, wetlands, and springs and vulnerable species that depend on them (Rohde et al. 2019). The MND/EA should quantify the amount of groundwater that may be affected along with the adverse impacts on groundwater-dependent species and surface water resources affected from</p>	<p>As discussed above, the Project would purchase water from vendors as needed to support exploration drilling and dust suppression activities. The Project estimates a total of 240,000 gallons of water to be used over the life of the Project, which equates to approximately 0.736 acre-feet of water being used for the life of the Project. The USGS estimates the Ogilby Valley Groundwater Basin, within which the Project Area is located, to have a natural recharge rate of 250 acre-feet per year (California’s Groundwater Bulletin 118). The Project estimated need for water compared to the natural recharge rate of the Ogilby Valley Groundwater Basin is approximately 0.0029% of the annual natural recharge rate. In relation to the Colorado River, the estimated 0.736 acre-feet of water needed for the life of the Project equates to 0.00013 percent of the total current level of Lake Powell (5,462,412 acre-feet) and 0.0000098 percent of the total current level of Lake Mead amount (7,449,000 acre-feet). Thus it was deemed that LUPA-SW-17 was not applicable. However, with this assessment to confirm that cumulative groundwater use would not be above the perennial yield of the basin, LUPA-SW-5 was deemed applicable and Appendix B and F have been revised accordingly</p>

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				Furthermore, the sumps for drilling mud would be designed with a slope ratio of approximately 2H:1V (horizontal to vertical) on one side to allow for wildlife egress out of the sump, if needed.
28.0	28.4	California Department of Fish and Wildlife	There is a discrepancy between the MND/EA and the Biological Resources Assessment (Appendix E of the MND/EA, as indicated in the Table of Contents), which estimates surface disturbance to be 20.54 acres from Drill Areas 1-7, staging area, new access roads, and improvements to existing roads. The Biological Resources Assessment (Appendix E, Section I) estimates surface disturbance to be 21.1 acres. Also, the MND/EA is unclear if these estimations include all 65 proposed drilling locations, spaces and turnarounds for large trucks, heavy equipment, and sumps. The MND/EA should clarify the correct estimation of surface disturbance and provide an accurate description of the accompanying Project activities.	<p>As discussed above, the total 20.54 acres of surface disturbance proposed under the Project was analyzed in the EA/MND, and the analysis accounted for all aspects of surface disturbance, including road improvements, construction of new access roads, construction of the staging area, and all 65 drill sites and associated drill pads, as outlined in Section 2.1 of the EA/MND and specifically calculated in Table 2-1. While the exact locations of drill sites are flexible within the Plan boundary as well as the associated temporary access roads, the acres of surface disturbance for such would be within the 20.54-acre surface disturbance total analyzed in the EA/MND, per the activities outlined in Table 2-1 of the EA/MND. All surface disturbance would be reclaimed concurrently within the drill areas, except for the staging area and new access road that connects to the Oro Cruz Mine Portal, which would be reclaimed after completion of underground exploration and other post-closure reclamation and monitoring activities, anticipated within five years.</p> <p>Note that while the Biological Resources Assessment (Appendix E of the MND/EA) noted a slightly larger surface area of disturbance, 20.54 acres is the correct proposed acres of disturbance per the Plan of Operations deemed complete by the BLM, and the entirety of this proposed surface disturbance area was evaluated within the Biological Resources Assessment.</p>
28.0	28.5	California Department of Fish and Wildlife	Finally, the MND/EA (Appendix A, Section 4.1) includes an estimated time frame for Project mobilization, road construction, drilling, and borehole abandonment to be completed within 12 to 24 months following mining exploration. However, the MND/EA fails to state the estimated period for mining exploration to begin. The MND/EA should clearly state the timing of the entire window of Project activities. In addition, the MND/EA (Appendix A, Section 4.1) states that “drill areas would be potentially revisited a second and third time based on findings,” but fails to consider that repeated focused and/or preactivity biological surveys would need to be completed before Project areas are revisited. Due to the unclear timing of the entire project window, revisiting sites without the proper environmental assessment could result in Project-related environmental impacts that cannot be mitigated to a level that is less than significant.	<p>Project activities will commence once the necessary approvals are obtained from both Imperial County and the BLM, as well as other relevant responsible agencies, such as the CDFW, which is currently estimated to occur in the 3rd Quarter of 2023. In general, each drill pad/area would be reclaimed and revegetated following the completion of exploration activities. As discussed in Section 3.23.3 of the EA/MND, interim and concurrent reclamation would be maximized to the extent possible to accelerate revegetation of disturbed areas and would help re-establish wildlife habitat in the short-term; however, reclamation would only commence in those drill areas that would not be revisited.</p> <p>The biological resource surveys and avoidance measures would apply throughout the entirety of the Project, and applicable measures would be implemented as needed if/when certain drill areas are revisited to conduct additional drilling operations. Specifically, a BLM Approved Authorized or Qualified biologist would be onsite anytime equipment is relocated to a new location to ensure potential impacts to desert tortoises are avoided, including if a previously utilized drill area is revisited. The onsite biologist would also survey for special status</p>

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				plants and noxious weeds as needed. See the complete list of PDFs for avoidance and minimization of impacts to wildlife species as provided in Appendix F of the EA/MND.
28.0	28.6	California Department of Fish and Wildlife	<p><u>Existing Environmental Setting</u></p> <p>Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting has not been adequately analyzed in the MND/EA. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND/EA likely provides an incomplete or inaccurate analysis of Project-related environmental impacts and whether those impacts have been mitigated to a level that is less than significant.</p> <p>The MND/EA bases its analysis of impacts to biological resources on three reports: (1) WestLand Resources Inc., which conducted a field assessment of the Project site in March 2021 (Appendix E of the MND/EA); (2) Tetra Tech, Inc., which conducted a biological resources assessment in October 2011 (referenced in Appendix A and Appendix E of the MND/EA); and (3) a focused desert tortoise survey conducted by Stantec Consulting Services Inc., on January 8 through 15, 2021 (Appendix E of the MND/EA). However, the MND/EA (Appendix E, Section 5.1.2) indicates that vegetation mapping validation, diurnal raptor surveys, and habitat suitability assessments for Colorado Desert fringe-toed lizard, western burrowing owl, flat-tailed horned lizard, and bat species were all performed during the single field visit conducted by WestLand Resources. In addition, no focused, protocol level surveys were conducted for special-status plant or animal species aside from the focused survey for desert tortoise, which is currently outdated. CDFW is concerned that the field assessments are outdated and were not conducted at the appropriate time(s) of year or using standard protocols to detect all special-status species on-site. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Therefore, CDFW recommends that a revised MND/EA or other CEQA document include the results of a complete, recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within off-site areas with the potential to be affected by Project activities (see “Assessment of Biological Resources” section below).</p>	<p>As discussed under Comment #26.1, biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Impacts to vegetation were analyzed accordingly based on baseline conditions under Sections 3.20.3, 3.20.5, and 3.20.6 in the EA/MND.</p> <p>In addition to the baseline studies conducted in coordination with the BLM, the Project has also incorporated numerous avoidance and minimization measures to ensure that Project activities do not adversely impact threatened, endangered, or other sensitive species. Specifically, detailed desert tortoise avoidance measures (17 total), summarized within the Plan of Operations (Appendix A of the EA/MND), would be implemented onsite. These include but are not limited to pre-construction tortoise surveys, onsite monitoring during tortoise active season, and employee training. Additionally, as discussed in Section 3.23.3 of the EA/MND, SMP has committed to conducting pre-construction surveys within 48 hours of surface disturbance within the species-specific buffers outlined in Appendix F of the EA/MND from the area to be disturbed in order to avoid impacts to migratory birds. Should active nests be identified during the pre-construction surveys, SMP would implement appropriate avoidance buffers around the nest in coordination with the BLM based on the nest species identified. Additionally, Project design features would also be implemented to avoid impacts to other avian, mammalian, and plant species, including the use of avoidance buffers and pre-construction surveys to reduce impacts to less than significant levels during the applicable breeding seasons. A complete list of Project design features for avoidance and minimization of impacts to wildlife species was provided in Appendix F of the EA/MND.</p>
28.0	28.7	California Department of Fish and Wildlife	<p><i>Assessment of Impacts to Biological Resources</i></p> <p><u>Assessment of Biological Resources</u></p> <p>CDFW is concerned about the potential for special-status species to occur on the Project site. The MND/EA acknowledges the potential for the following special-status species to occur: desert tortoise (<i>Gopherus agassizii</i>), burrowing owl (<i>Athene cunicularia</i>), prairie falcon (<i>Falco mexicanus</i>), peregrine falcon (<i>Falco peregrinus</i>), golden eagle (<i>Aquila chrysaetos</i>), black-tailed</p>	As discussed under Comment #26.1 and #28.6 above, biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Impacts to vegetation were analyzed accordingly based on baseline conditions under Sections 3.20.3, 3.20.5, and 3.20.6 in the EA/MND.

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			<p>Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.</p> <p>CDFW is also concerned about the potential for special-status species to occur on the Project site over the duration of the Project. A complete assessment of the flora and fauna within and adjacent to the Project footprint should be conducted at each Drill Area prior to mining and reclamation activities. CDFW suggests this information, and any necessary mitigation measures, be addressed in a revised MND/EA or other CEQA document.</p>	
28.0	28.8	California Department of Fish and Wildlife	<p><u>California Endangered Species Act (CESA)</u></p> <p>CESA prohibits the take (under Fish & G. Code, § 86, “take” means to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill) of any endangered, threatened, or candidate species that results from a proposed project, except as authorized by state law (Fish & G. Code, §§ 2080, 2085). Consequently, if Project construction or any Project-related activity during the life of the proposed Project would result in take of a CESA-listed species, CDFW recommends that the Project applicant seek appropriate take authorization under CESA prior to implementing the proposed Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP), a consistency determination, or other permitting options (Fish and G. Code, §§ 2080.1, 2081, subds. (b), (c)). CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to obtain a CESA ITP. Proposed avoidance, minimization, and mitigation measures must be sufficient for CDFW to conclude that the Project’s impacts are fully mitigated.</p> <p>CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. CESA ITPs are issued to conserve protect, enhance, and restore state-listed CESA species and their habitats. More information on ITPs can be found at: https://wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits. Species protected under CESA have the potential to occur within the Project site, such as desert tortoise.</p>	<p>As noted in Section 3.23 of the EA/MND, a biological analysis was conducted that analyzed both the broader Project Area and proposed disturbance footprint to determine the presence of threatened and endangered species covered under the California Endangered Species Act (CESA). Based upon the results of the biological analysis baseline surveys, it was determined that potential impacts to threatened or endangered species covered under CESA, including the desert tortoise, would be avoided through the implementation of avoidance and minimization measures. Specifically, Project activities would be monitored throughout the life of the Project to avoid potential impacts to Mojave Desert tortoise habitat year round. Pre-construction desert tortoise surveys would be conducted by an Authorized or Qualified Biologist within the area to be disturbed, plus a 500-foot buffer, and the Authorized or Qualified Biologist would be onsite within 24 hours of commencement of Project activities.</p> <p>Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities under the Proposed Action in order to identify present of wildlife species and determine whether a change in drill siting must occur and/or additional impact minimization or avoidance measures may be necessary, which would be coordinated directly with the BLM. If future site biological surveys indicate additional permits are required, SMP will work with both the CDFW and BLM to ensure that all State and Federal laws are adhered to.</p>
28.0	28.9	California Department of Fish and Wildlife	<p><u>Special-Status Plants</u></p> <p>Based on review of the California Natural Diversity Database (CNDDDB) and the Biogeographic Information and Observation System (BIOS), plant species that are state and/or federally listed as endangered and plant species with California Rare Plant Ranks of 1B and 2B have the potential to occur in the Project area. The California Rare Plant Rank 1B indicates plants that are rare, threatened, or endangered in California and elsewhere, and California Rare Plant Rank 2B indicates plants that are rare, threatened, or endangered in California but more common elsewhere. Impacts to</p>	<p>As discussed in Sections 3.23.2 and 3.25.5 of the EA/MND, The USFWS and the CDFW were contacted to obtain a list of threatened and endangered and sensitive species that have the potential to occur within the Project Area (the Project Area plus a 500-foot buffer). The most recent BLM Sensitive Species List was also obtained, which includes threatened and endangered species, and evaluated to determine if any species had the potential to occur within the area of analysis. WestLand evaluated the potential for special-status species to occur in the Project Area. WestLand identified three California Native Plant Society (CNPS) vegetation categories that occur in the Project Area – black mustard (<i>Brassica</i></p>

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			<p>these species must be analyzed during preparation of environmental documents relating to CEQA because they meet the definition of rare or endangered under CEQA Guidelines §15125 (c) and/or §15380.</p> <p>The MND/EA (Section 3.20.2) indicates that “impacts to special status plant species would include the disturbance of up to 20.54 acres of vegetation communities.” The MND/EA continues to state that direct impacts to sensitive plant species would occur because “surface disturbance could occur at any location throughout the Project Area as exploration activities progress through the life of the Project.” CDFW is concerned that the habitat assessments were not conducted at the appropriate time(s) of year to detect all special status plants on the Project site and did not follow the standard protocol to detect special status plants. The MND/EA (Section 3.20.2) and CNDDDB/BIOS indicates that the following special-status plants have historically occurred near the Project site or have the potential to occur: Wiggin’s croton (<i>Croton wigginsii</i>), sand foot (<i>Pholisma sonora</i>), Munz cholla (<i>Cylindropuntia munzii</i>), flat-seeded spurge (<i>Euphorbia platysperma</i>), pink fairy-duster (<i>Calliandra erophylla</i>), and glandular ditaxis (<i>Ditaxis claryana</i>).</p> <p>The MND/EA includes mitigation measures (PDF-33, LUPA-BIO-PLANT-2, LUPA-BIOSVF-6, LUPA-BIO-VEG-1, and M-8) to address surveys and protections for special-status plants. However, the MND/EA has not provided a complete and accurate analysis of the current environmental setting for the Project site. CDFW recommends that a revised MND/EA or other CEQA document include a thorough, recent, floristic-based assessment of special-status plants completed at the appropriate time(s) of year before Imperial County adopts the MND/EA. CDFW generally considers biological field assessments for rare plants to be valid for a period of up to three years. The results of this assessment should be included in a revised MND/EA or other CEQA document. If any rare, threatened, endangered, or other sensitive plant species are located within the Project site, CDFW recommends that the MND/EA be revised to include appropriate avoidance, minimization, and mitigation measures. For unavoidable impacts to special-status species, on-site habitat restoration and/or enhancement and preservation should be evaluated and discussed in detail. Where habitat preservation is not available on-site, off-site land acquisition, management, and preservation should be evaluated and discussed in detail in a revised MND/EA or other CEQA document. CDFW recommends inclusion of the following mitigation measure:</p> <p>MM BIO-[A]: Special-Status Plants</p> <p>Prior to the adoption of the CEQA document and prior to mining and reclamation activities at each Drill Area and construction site, a thorough floristic-based assessment of special-status plants and natural communities, following CDFW's Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFW 2018 or most recent version) shall be performed by a qualified biologist. Should any state-listed plant species be present in</p>	<p><i>nigra</i>) and other mustards seminatural stands, blue palo verde (<i>Parkinsonia florida</i>)-ironwood alliance, and creosote-brittlebush alliance – as well as three special status plant species – Munz cholla (<i>Cylindropuntia munzii</i>), Flat-seeded spurge (<i>Euphorbia platysperma</i>), and Pink fairy-duster (<i>Calliandra erophylla</i>)– that were determined to have a possible presence or a high potential to occur in the Project Area (WestLand 2021). Note, as discussed in Section 3.20.2 of the EA/MND, these three plant communities are classified as sensitive by the CDFW.</p> <p>Biological baseline surveys, including vegetation and rare plant community surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Additionally, the timing of the baseline flora surveys was strategically chosen to coincide with the flowering seasons of potential species of concern.</p> <p>Although the three sensitive species above were noted to have the potential to occur within the Project Area, through their onsite surveys WestLand found that vegetation is sparse in both the upland and xeroriparian habitats of the Project area. The uplands consist of a very low-density shrub community dominated by creosote (<i>Larrea tridentata</i>) and brittlebush (<i>Encelia farinose</i>). In addition, large portions of the Project Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (<i>Fouquieria splendens</i>). In summation, WestLand found that vegetation in the Project Area is uniformly sparse and consists of very low density shrublands, upland trees and highly disturbed habitats.</p> <p>In addition to the CNPS vegetation categories, as discussed under Comment #26.3 above, no BLM special status species have been identified within the Project Area or the vegetation area of analysis per the March 2021 biological baseline surveys, which included vegetation baseline surveys (WestLand 2021). The January 2021 desert tortoise baseline surveys included incidental vegetation sightings while in the field but did not include a complete habitat evaluation or floristic inventory as such work was outside the scope of the desert tortoise surveys (Stantec 2021). The pink fairyduster plant is listed as a CESA special status species and is not a BLM special status species, as delineated in the biological baseline report (WestLand 2021). . Additionally, as outlined in Table 3-36 of the EA/MND, no plant species protected under Imperial County Code are present within the Project Area or vegetation area of analysis. A habitat assessment in accordance with LUPA-BIO-1 was conducted as part of the</p>

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			<p>the Project area, the Project proponent shall obtain an Incidental Take Permit for those species prior to the start of Project activities. Should other special-status plants or natural communities be present in the Project area, the Project proponent shall either fully avoid the plant(s), with an appropriate buffer established by a qualified botanist and marked in the field (i.e., fencing or flagging), or mitigate the loss of the plant(s) through the purchase of mitigation credits from a CDFW-approved bank, or the acquisition and conservation of land approved by CDFW at a minimum 3:1 (replacement-to-impact) ratio.</p> <p>Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) for proposed MM BIO-A-L (see Attachment 1).</p>	<p>biological baseline report (WestLand 2021) for species with potential to occur or may have suitable habitat in the Project Area or vicinity; therefore, this CMA would not be required to be implanted under the Project in addition to the applicant-committed PDFs, additional CMAs, and BLM required additional mitigation (outlined in Appendix F of the EA/MND).</p> <p>Although based on the analysis in the EA/MND summarized above indicate the potential for the Project to impact special-status plant species covered under the CESA would be avoided through the implementation of avoidance and minimization measures, plant species observed in the field during the March 2021 biological baseline surveys do not represent a complete floristic inventory as it is representative of the species that were identified during the surveys and may not be representative of species that are present year-round. As such, the text of the required mitigation measures in Table F-3 of Appendix F of the EA/MND, M-8 and PDF-34 has been clarified to state the pre-construction surveys conducted prior to surface disturbance would include vegetation surveys to ensure that no special status plants are present within areas proposed for disturbance. Appropriate biological monitoring and a avoidance measures would be coordinated with the BLM should special status plants be identified during Project implementation. Please note that per Appendix B and Table F-2 of Appendix F of the EA/MND, LUPA-BIO-2 would not be required for implementation under the Proposed Action as required pre-construction surveys and continued monitoring would take place during all phases of the Proposed Action by a BLM Authorized Biologist.</p> <p>Specifically, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[A], will be implemented to ensure potential impacts to special-status species are fully avoided:</p> <ul style="list-style-type: none"> • PDF-34: Pre-construction vegetation surveys, including for noxious and non-native invasive species and special status species, would be conducted in tandem with the pre-construction migration bird surveys described above. Should special status plant species be identified during Project activities, the BLM would require SMP to implement temporary barrier fencing around the individual plants for a avoidance and to minimize impacts throughout the life of the Project. • LUPA-BIO-PLANT-2: Implement an avoidance setback of 0.25 mile for all Focus and BLM Special Status Species occurrences. Setbacks will be placed strategically adjacent to occurrences to protect ecological processes necessary to support the plant Species (see

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				<p>Appendix Q, Baseline Biology Report, in the Proposed LUPA and Final EIS [2015], or the most recent data and modeling).</p> <ul style="list-style-type: none"> M-8: Should special status plant species be identified during Project activities, the BLM would require SMP to implement temporary barrier fencing around the individual plants for avoidance and to minimize impacts throughout the life of the Project. <p>Through the required pre-construction surveys, including onsite surveys anytime construction equipment is moved to a new location, as well as the implementation of PDFs and CMAs (Appendix F), impacts to special status plants are expected to be avoided and no direct or indirect adverse effects would occur. Nonetheless, if special status plants are observed during the pre-construction surveys that cannot be avoided, SMP would work with CDFW and the appropriate agencies to minimize impacts.</p>
28.0	28.10	California Department of Fish and Wildlife	<p><u>Nesting Birds</u></p> <p>It is the Project proponent’s responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: Fish and Game Code section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).</p> <p>The MND/EA (Section 3.23.2) acknowledges that “twenty avian species have the potential to occur within or near the area” and “17 avian species were documented during the 2021 biological baseline surveys.” CDFW is concerned about impacts to nesting birds throughout all phases of the proposed Project activities. Although the MND/EA includes information about performing nesting bird surveys (Appendix F) and offers mitigation measures (PDF-10 and LUPA-BIO-IFS-24), the timing and scope are insufficient to protect nesting birds. CDFW recommends the revised MND/EA or other CEQA document include specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but are not limited to, Project phasing and timing, monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site be avoided any</p>	<p>As discussed under #23.17 above, per the PDFs, CMAs, and BLM/County required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys for nesting birds would be conducted prior to surface disturbing activities under the Project in order to identify the presence of avian wildlife species and determine whether a change in drill siting must occur and/or additional impact minimization or avoidance measures may be necessary, which would be coordinated directly with the BLM. Specifically, the following PDFs and CMAs, which are similar in nature to CDFW’s suggested MM BIO-[B], will be implemented to ensure potential impacts to nesting birds are properly mitigated:</p> <ul style="list-style-type: none"> PDF-10: Prior to project activities, pre-construction migratory bird surveys would be conducted by a BLM approved Qualified Biologist within 48 hours of proposed disturbance during the migratory bird breeding season (February 15 to August 31). Should active nests be identified during the pre-construction surveys, the following species-specific avoidance buffers would be implemented: 200 feet for non-ESA listed species; 300 feet for ESA listed species; and 500 feet for raptor species. No work would be conducted within the avoidance buffer areas until a BLM-approved Qualified Biologist determines that the nest is no longer active, fledglings are independent of the nest, the nest has failed, or the BLM approves a buffer reduction deemed appropriate by the Qualified Biologist. If an avoidance buffer needs to be reduced, SMP would contact the U.S. Fish and Wildlife Service (USFWS) and BLM and provide the necessary survey information to support the buffer reduction.

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			<p>time birds are nesting on-site. Pre-activity nesting bird surveys shall be performed within 3 days prior to Project activities to determine the presence and location of nesting birds. As a result, CDFW recommends adding the following mitigation measure:</p> <p>MM BIO-[B]: Avoidance of Nesting Birds</p> <p>Prior to commencing Project activities at each Drill Area and construction site, nesting bird surveys shall be performed by a qualified avian biologist no more than (3) days prior to vegetation removal or ground-disturbing activities. Pre-activity surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-activity nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Established buffers shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.</p>	<p>Through the required pre-construction surveys, including onsite surveys anytime construction equipment is moved to a new location, as well as the implementation of PDFs and CMAs (Appendix F), impacts to nesting bird species are expected to be properly avoided.</p> <p>Additionally, as described in Section 3.23.3 of the EA/MND, SMP has committed to conducting pre-construction surveys within 48 hours of surface disturbance within the species-specific buffers outlined in Appendix F of the EA/MND from the area to be disturbed in order to avoid impacts to migratory birds. Should active nests be identified during the pre-construction surveys, SMP would implement appropriate avoidance buffers around the nest in coordination with the BLM based on the nest species identified. As such, any potential impacts to migratory birds and raptors would be minor, short-term, and localized, and would generally be avoided through pre-construction nesting bird surveys.</p>
28.0	28.11	California Department of Fish and Wildlife	<p><u>Burrowing Owl (<i>Athene Cunicularia</i>)</u></p> <p>Burrowing owl is a California Species of Special Concern (SSC). Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).</p> <p>The MND/EA (Section 3.23.2) acknowledges that “potentially suitable habitat exists within the area” for western burrowing owl. Burrowing owls are known to occupy burrows created by ground squirrels, which were observed during the field assessments (Table 3-34). Also, CNDDDB/BIOS indicates that burrowing owl have historically occurred near the Project site. Although the MND/EA includes mitigation measures (LUPA-BIO-IFS-12, LUPA-BIO-IFS-13, and LUPA-BIO-IFS-14) for burrowing owl, the timing and scope are insufficient to protect burrowing owls. CDFW recommends that prior to adoption of the MND/EA, a focused survey for burrowing owl following</p>	<p>As discussed in Section 3.23.2 of the EA/MND, while during WestLand’s biological baseline surveys, suitable habitat was documented in the western and southern portions of the area of analysis, but no individuals or sign were physically observed (WestLand 2021). Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F, while there is a low potential for burrowing owl occurrence within the Project Area, should burrowing owls be identified during pre-construction, surveys, the CMA’s, LUPA-BIO-IFS-12 through 14 identified in the EA/MND, would be implemented in addition the PDFs and mitigation measures already prescribed within Appendix F of the EA/MND. Specifically, the following PDFs and CMAs, which are similar in nature to CDFW’s suggested MM BIO-[C], will be implemented to ensure potential impacts to burrowing owls are properly avoided and/or mitigated:</p> <ul style="list-style-type: none"> • LUPA-BIO-IFS-12: If burrowing owls are present, a designated biologist (see Glossary of Terms) will conduct appropriate activity specific biological monitoring (see Glossary of Terms) to ensure avoidance of occupied burrows and establishment of the 656 feet (200

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			<p>the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version) should be conducted by a qualified biologist. The Staff Report on Burrowing Owl Mitigation specifies that project impact evaluations include the following steps: (1) habitat assessment, (2) surveys, and (3) an impact assessment. The three progressive steps are effective in evaluating whether a project will result in impacts to burrowing owls. The focused survey should be repeated prior to commencement of Project-related activities at each site. Pre-activity surveys should also be conducted prior to commencement of Project-related activities at each borrow site. CDFW recommends the revised MND/EA or other CEQA document include specific avoidance and minimization measures to ensure that impacts to burrowing owls do not occur. As a result, CDFW recommends adding the following mitigation measure which includes both focused and pre-activity surveys:</p> <p>MM BIO-[C]: Burrowing Owl Surveys</p> <p>Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted in accordance with the Staff Report on Burrowing Owl mitigation (2012 or most recent version) prior to adoption of the CEQA document and no less than 30 days prior to the start of Project activities at each Drill Area and construction site. If burrowing owls are detected during the focused surveys, the qualified biologist and Project Applicant shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the “Mitigation Impacts” section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The</p>	<p>meter) setback to sufficiently minimize disturbance during the nesting period on all activity sites, when practical.</p> <ul style="list-style-type: none"> • LUPA-BIO-IFS-13: If burrows cannot be avoided on-site, passive burrow exclusion by a designated biologist (see Glossary of Terms) through the use of one-way doors will occur according to the specifications in Appendix D or the most up-to-date agency BLM or CDFW specifications. Before exclusion, there must be verification that burrows are empty as specified in Appendix D or the most up-to-date BLM or CDFW protocols. Confirmation that the burrow is not currently supporting nesting or fledgling activities is required prior to any burrow exclusions or excavations. • LUPA-BIO-IFS-14: Activity-specific active translocation of burrowing owls may be considered, in coordination with CDFW. <p>Through the required pre-construction surveys, including onsite surveys anytime construction equipment is moved to a new location, as well as the implementation of PDFs and CMAs (Appendix F), impacts to nesting bird species are expected to be properly avoided. Therefore, through the implementation of the pre-construction surveys and CMAs/PDFs approved by the BLM, the Project would have less than significant impacts to burrowing owls.</p>

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			<p style="text-align: center;">Permittee shall implement the Burrowing Owl Plan following CDFW review and approval.</p> <p>At each Drill Area and construction site, pre-activity burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or most recent version). Pre-activity surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the Staff Report on Burrowing Owl Mitigation. If the pre-activity surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and USFWS to conduct an impact assessment to develop avoidance and minimization measures to be approved by CDFW prior to commencing Project activities.</p>	
28.0	28.12	California Department of Fish and Wildlife	<p><u>Bats</u></p> <p>Bats are considered non-game mammals and are afforded protection by State law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs, § 251.1). Several bat species are considered SSC (CDFW 2022). Impacts on SSC could require a mandatory finding of significance under CEQA (CEQA Guidelines, § 15065). Impacts on bats, either directly or indirectly through disturbances to roosts and loss of habitat, would be a significant impact.</p> <p>Project construction and activities may result in direct and indirect impacts to bats. Direct impacts include removal of vegetation and structures occupied by roosting bats. This could result in injury or mortality to bats as well as loss of roosting habitat. Indirect impacts to bats and roosts could result from increased noise disturbances, human activity, dust, ground-disturbing activities (e.g., staging, mobilizing, excavating, and grading), and vibrations caused by heavy equipment. The MND/EA (Appendix E, Biological Assessment Section 5.1.2) indicates “previous survey efforts detected 20 high value bat roosts in underground mines within the Analysis Area.” Additionally, the MND/EA states “these mine features were occupied by a suite of species including California leaf-nosed bat (<i>Macrotus californicus</i>), Townsend’s big-eared bat (<i>Corynorhinus townsendii</i>), pallid bat (<i>Antrozous pallidus</i>) and an unknown myotis species, likely cave myotis (<i>Myotis velifer</i>).” Appendix E indicates the greater western mastiff bat (<i>Eumops perotis californicus</i>) and pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>) also have the potential to occur in the Project Area.</p> <p>Due to the historical occurrence of bats in the Project Area and optimal roosting habitat in mining features, focused surveys and pre-activity surveys for bats should be performed before the commencement of project activities. No compensatory mitigation is proposed in the MND/EA. The Project could result in loss of roosting habitat. Relocating or evicting active hibernacula or maternity roosts is not mitigating for loss of habitat that would occur. CDFW recommends the Lead Agency revise mitigation measure PDF-11 to state that Drill Area-specific field surveys be</p>	<p>See Comments #21.1 through Comment #21.7 above.</p> <p>The PDF-11 to implement a 500-foot avoidance buffer during the bat maternity season (April 1 through August 31) for surface drilling around features with evidence of use by sensitive bat species is in compliance with Volume IV Section 7 Biological Resources in the DRECP Final EIS (BLM 2015) for implementing an avoidance setback of 500 feet around known bat roosts. The EA/MND analyzes effects resulting from surface disturbance only. Underground exploration is not analyzed in the EA/MND as it is not subject to permitting under the 43 CFR 3809 Surface Management regulations, nor SMARA, and is therefore not under the decision-making realm of the BLM or County, respectively, as it pertains to the proposed Project.</p> <p>The proponent has voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities; however, the proponent would make their best attempt at utilizing all available LiDAR data to also support surface drill siting in order to avoid the known voids (including roosts, mine shafts, and adits that may support bat species) in the underground workings. Furthermore, surface drill siting has been preliminarily located in the Plan of Operations based on geologic mapping and would be further developed should the Proposed Action be approved. Surface drilling relies on a constant circulation of fluids to lubricate the drill rig and bring samples to the surface; as such, lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void, such as an area with an open underground mine working. The Proponent would make the best effort possible so that surface drilling would not intersect with underground workings due to not only technical infeasibility, but also economic infeasibility given the potential loss of productivity of a drill site</p>

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			<p>conducted to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. Therefore, CDFW recommends adding the following mitigation measure, which includes both focused and pre-activity surveys:</p> <p>MM BIO-[D]: Bat Surveys</p> <p>Prior to adoption of the CEQA document, Imperial County shall retain a qualified biologist to conduct focused surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites in the Project area. Two spring surveys (April through June) and two winter surveys (November through January) shall be performed by qualified biologists. Surveys shall be conducted during favorable weather conditions only. Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys.</p> <p>If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during preconstruction surveys, for maternity roosts, Project construction will only between October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed. A minimum 500-foot no-work buffer shall be provided around hibernacula. The buffer shall not be reduced. Project-related construction and activities shall not occur within 500 feet of or directly under or adjacent to hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed. If avoidance of a hibernacula is not feasible, the qualified biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area. A bat roost relocation plan shall be submitted for CDFW review prior to construction activities. The qualified biologist will implement the relocation plan and new roost sites shall be in place before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. New roost</p>	<p>if it were to be sited in an area that would potentially intersect with an underground mine working. Per PDF-11 (described in Appendix F of the EA/MND) to implement a 500-foot avoidance buffer during the bat maternity season for surface drilling around features with evidence of use by BLM sensitive bat species, the proponent would utilize data provided by the BLM with locations of known abandoned mine sites that host populations of BLM sensitive bat species to implement the buffer and to inform surface drill siting.</p> <p>Although not included as a mitigation measure, shielded lights on drilling equipment is a standard equipment feature that would be used during nighttime drilling to limit visual impacts from night lighting in the Project Area. Although some of the known bat species with potential to be present within the Project Area do not depend on “hawking” insects from the air and therefore would likely not be drawn to insect population that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on “hawking” insects rather than foraging from the ground and/or vegetation; therefore, the creation of a source of light that would attract insects and thus some species of foraging bats is was disclosed as a potential impact within the EA/MND. Additionally, per LUPA-BIO-14, all long-term nighttime lighting will be directed away from riparian and wetland vegetation, occupied habitat, and suitable habitat areas for Focus and BLM Special Status Species. Long-term nighttime lighting will be directed and shielded downward to avoid interference with the navigation of night-migrating birds and to minimize the attraction of insects as well as insectivores birds and bats to project infrastructure. Therefore, through the implementation of the PDFs and CMAs summarized above, which are similar in nature to CDFW’s suggested MM BIO-[D], potential impacts to bat species would be properly avoided and/or mitigated. As such, per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities in order to identify presence of both wildlife, including bat species, and vegetation species that may require additional coordinated avoidance with the BLM.</p>

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			sites shall be in place prior to the initiation of Project-related activities to allow enough time for bats to relocate. Removal of roosts will be guided by accepted exclusion and deterrent techniques.	
28.0	28.13	California Department of Fish and Wildlife	<p><u>Colorado Desert Fringe-toed Lizard (<i>Uma notata</i>)</u></p> <p>Colorado Desert fringe-toed lizard is a California Species of Special Concern (SSC). The MND/EA (Appendix E, Biological Assessment Section 6.2) acknowledges there are several areas within the Project area that include isolated sandy patches that may provide habitat for Colorado Desert fringe-toed lizard. These lizards burrow in sand to deposit eggs, thermoregulate, and/or to avoid predators at various times throughout the year. It is crucial to adequately assess whether these reptiles or signs of their presence are present on the Project site well in advance of commencing Project activities. If any special-status reptiles are found onsite, it could delay Project activities.</p> <p>CDFW is concerned that the timing and scope of the habitat assessment were not sufficient to assess whether Colorado Desert fringe-toed lizard are present on the Project site due to their burrowing capabilities, which would be difficult to detect during quick, reconnaissance surveys. Therefore, CDFW recommends that prior to the adoption of the CEQA document, a focused survey for special-status lizards be conducted by a qualified biologist. The focused survey should be repeated prior to commencement of reclamation activities at each Drill Area. The focused surveys should be followed by pre-activity surveys. CDFW recommends the revised CEQA document include specific avoidance and minimization measures to ensure that impacts to the above-listed special-status lizards do not occur. As a result, CDFW recommends adding the following mitigation measure which includes both focused and pre-activity surveys:</p> <p>MM BIO-[E]: Colorado Desert Fringe-toed Lizard Surveys</p> <p>Prior to the adoption of the CEQA document and prior to Project activities at each Drill Area and construction site, a focused survey for Colorado Desert fringe-toed lizards be conducted by a qualified biologist, following the <i>Survey Protocol for the Blunt-nosed Leopard Lizard (2019 or most current version)</i>, during the species' most active periods (February through November, however, juveniles can be active all year). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete special-status lizard protocol-level surveys submit their qualifications to CDFW and USFWS prior to the initiation of surveys.</p>	<p>As noted previously in response to Comment #23.16, per the requirements and assessment for LUPA-BIO-IFS-10 related to flat-tailed horned lizards in the CMA table in Appendix B of the EA/MND, habitat is not included in the DRECP flat-tailed horned lizard species distribution model and identified occurrence of this species has not been documented within the Project Area. Furthermore, per Tables 5 and 6 of the Biological Resource Technical Report and Assessment (WestLand 2021), there is no potential of occurrence within the Project Area for flat-tailed horned lizard. Per the baseline report, some habitat does exist within the Project Area for Colorado fringe-toed lizard, however there is low potential for occurrence and no species individuals or sign was identified during the 2021 baseline surveys. Per the analysis in Section 3.23.3 of the EA/MND, the Proposed Action would temporarily remove potential forage and habitat for reptile species that would be unavailable until successful completion of reclamation. Disturbance of habitat may impact individual species, but it is not anticipated to impact species populations; as such, potential impacts to reptiles would be minor, short-term, and localized, and would be sufficiently mitigated to less than significant levels through the implementation of applicable avoidance and mitigation measures. Additionally, there are no Aeolian sand transport corridors within or in the vicinity of the Project Area, therefore, per the assessment in the CMA table in Appendix B, LUPA-BIO-1 would not be required to be implemented under the Project.</p> <p>Lastly, per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities, or prior to anytime construction equipment is moved to a new location in order to identify presence of both wildlife, including reptilian species such as the Colorado Desert Fringe-toed Lizard, and vegetation species that may require coordinated avoidance with the BLM. Through the implementation of these avoidance and mitigation measures, potential impacts to Colorado Desert Fringe-toed lizard would be less than significant.</p>

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			<p>No more than 30 calendar days prior to the beginning of ground disturbance and/or Project activities at each Drill Area and construction site, a qualified biologist shall conduct pre-activity surveys for Colorado Desert fringe-toed lizard as described in the <i>Survey Protocol for the Blunt-nosed Leopard Lizard</i> (2019 or most current version). Pre-activity surveys should include 100- percent visual coverage of the Project area and cannot be combined with other surveys conducted for other species while using the same personnel. If the pre-activity surveys confirm occupied Colorado Desert fringe-toed lizard habitat, Project activities shall be immediately halted, and the qualified biologist shall notify CDFW and USFWS to develop avoidance, minimization, and mitigation measures.</p>	
28.0	28.14	California Department of Fish and Wildlife	<p><u>Desert Tortoise (<i>Gopherus agassizii</i>)</u></p> <p>Desert tortoise is listed as a threatened species under CESA and is a candidate for up- listing to endangered under CESA. According to the MND/EA (Section 3.23.2), “evidence of tortoise use of the area was detected in some of the proposed Drill Areas” during the focused desert tortoise surveys conducted by Stantec Consulting Service Inc. on January 8 to 15, 2021. The MND/EA (Section 3.23.2) also acknowledges that appropriate Mojave Desert tortoise habitat is located within the Project area. Additionally, the Project area is closely located (about 6 miles) to the USFWS Critical Habitat for desert tortoise, and CNDDDB/BIOS indicates that desert tortoise have historically occurred near the Project site. Chapter 4 of the Desert Tortoise (Mojave Population) Field Manual indicates that “surveys should be conducted during the desert tortoise’s most active periods (April through May or September through October)” (USFWS 2009, p. 4–8). CDFW is concerned that the timing and scope of the surveys were insufficient to determine the full extent of desert tortoise on the Project site.</p> <p>Although the MND/EA includes mitigation measures (PDF-12, PDF-13, PDF-14, and M-1) for desert tortoise, the timing and scope are insufficient to protect desert tortoise. CDFW recommends that prior to adoption of the CEQA document, an updated focused survey for desert tortoise following the Desert Tortoise (Mojave Population) Field Manual should be conducted by a qualified biologist. This focused survey should be repeated prior to commencement of Project-related activities at each site. Pre-activity surveys should also be conducted prior to commencement of Project-related activities at each site. CDFW recommends the revised MND/EA or other CEQA document include specific avoidance and minimization measures to ensure that impacts to desert tortoise do not occur.</p> <p>In addition, research indicates a link between mineral mining and toxicant-based disease in desert tortoise (Chaffee and Berry 2006). Mineral mining can result in the delivery of toxicants into nearby soil, water resources, and habitats used by many vulnerable desert species. Soil anomalies in areas near mining districts often contain the elements arsenic, gold, cadmium, mercury, antimony, and tungsten, and plant anomalies contain the elements arsenic, antimony, and tungsten. High concentrations of mercury and arsenic have been found in ill desert tortoises</p>	<p>See previous comment responses related to the Desert Tortoise, primarily in response to Letter #4 received from the Desert Tortoise Council.</p> <p>Per the analysis in Section 3.23.3 of the EA/MND, impacts to threatened and endangered species (including Mojave Desert tortoise), special status species, and general wildlife species are anticipated to be negligible to minor, short-term, and localized, and sufficiently mitigated to less than significant levels through the implementation of the avoidance and minimization measures summarized below. Several Project Design Features (PDFs) have been developed by the proponent for implementation during the Project to avoid or sufficiently mitigate potential impacts. Additional wildlife-specific mitigation measures would be required for implementation by the BLM, as outlined in Appendix F of the EA/MND. Specifically, detailed desert tortoise avoidance measures (17 total), summarized within the Plan of Operations (Appendix A of the EA/MND), would be implemented onsite. These include but are not limited to pre-construction tortoise surveys, onsite monitoring during tortoise active season, and employee training. Additionally, as discussed in Section 3.23.3 of the EA/MND, SMP has committed to conducting pre-construction surveys within 48 hours of surface disturbance within the species-specific buffers outlined in Appendix F of the EA/MND from the area to be disturbed in order to avoid impacts to Mojave Desert tortoise. Surveys for Mojave Desert tortoise may be combined with pre-construction migratory bird surveys if taking place during the nesting season.</p> <p>In addition to the PDFs/CMAs cited by the CDFW, PDF-21 included in Table F-1 of Appendix F of the EA/MND would also be implemented, which notes that if a tortoise is encountered during construction activities, work would be halted immediately per the authority of a designated Field Contact Representative (who would be a BLM-approved Authorized or Qualified Biologist), who would be on-site year round during all Project activities, in proximity to the tortoise until an on-call BLM-approved Authorized Biologist arrives to move the tortoise from harm’s way, or until the tortoise leaves of its</p>

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			<p>(Chaffee and Berry 2006). Toxic chemicals from mining have been documented to travel as far as 22 km from the mining areas probably due to wind-borne dust, vehicles, and rainfall. CDFW encourages Imperial County to include in a revised CEQA document an analysis of this potentially significant impact on desert tortoise, as well as appropriate avoidance, minimization, and mitigation measures.</p> <p>CDFW recommends inclusion of the following mitigation measure, which includes focused and pre-activity surveys, in the revised MND/EA or other CEQA document:</p> <p>MM BIO-[F]: Desert Tortoise Surveys</p> <p>Prior to adoption of the CEQA document and prior to commencing Project activities at each Drill Area and construction site, a focused survey for desert tortoise shall be conducted by a qualified biologist, according to protocols in chapter 4 of the Desert Tortoise (Mojave Population) Field Manual (USFWS 2009 or most recent version), during the species' most active periods (April through May or September through October). CDFW recommends working with USFWS and CDFW concurrently to ensure a consistent and adequate approach to planning survey work and that biologists retained to complete desert tortoise protocol-level surveys submit their qualifications to CDFW and USFWS prior to initiation of surveys.</p> <p>At each Drill Area and construction site, no more than 14 calendar days prior to start of Project activities, a qualified biologist shall conduct pre-activity surveys for desert tortoise as described in the USFWS <i>Desert Tortoise (Mojave Population) Field Manual</i> (USFWS 2009 or most recent version). Pre- activity surveys shall be completed using perpendicular survey routes within the Project area and 50-foot buffer zone. Pre-activity surveys cannot be combined with other surveys conducted for other species while using the same personnel. Project activities cannot start until two negative results from consecutive surveys using perpendicular survey routes for desert tortoise are documented. Should desert tortoise presence be confirmed during the survey, the qualified biologist shall immediately notify CDFW and USFWS to determine appropriate avoidance, minimization, and mitigation measures.</p>	<p>own accord. Specifically, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[F], will be implemented to ensure potential impacts to desert tortoises are properly avoided and/or mitigated:</p> <ul style="list-style-type: none"> • PDF-13: Within 24 hours of the commencement of Project activities, a BLM-approved Authorized or Qualified Biologist would inspect the area to be disturbed plus a 500-foot buffer, focusing on areas that could provide suitable desert tortoise burrow or cover sites, such as dry washes with caliche. This may be combined with the above pre-construction migratory bird survey if taking place during the nesting season. Burrows would be flagged such that they would be avoided by Project activities. When requesting authorization of biologists to handle desert tortoises, the Permittee/BLM will submit credentials to the USFWS for review and approval at least 30 days prior to the need for the biologist to perform those activities in the field. • PDF-21: SMP would designate a field contact representative (FCR) who would be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be on-site during all Project activities. The FCR would have the authority to halt Project activities that are in violation of the stipulations. The FCR would have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of the Project Proponent, or a BLM-approved Authorized Biologist. Any incident occurring during Project activities that is considered by the FCR to be in non-compliance with the mitigation plan would be documented immediately by the FCR. The FCR would ensure that appropriate corrective action is taken. Corrective actions would be documented by the FCR. The following incidents would require immediate cessation of the construction activities causing the incident, including: <ul style="list-style-type: none"> ○ Imminent threat of injury or death to a desert tortoise; ○ Unauthorized handling of a desert tortoise, except on designated roads; ○ Conducting any construction activity without a biological monitor where one is required. If a tortoise is encountered during construction activities, work would be halted in proximity to the tortoise until an on-call BLM-approved Authorized Biologist can move the animal from harm's way or until the desert tortoise leaves of its own accord.

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				<ul style="list-style-type: none"> • PDF-34: Injury: Should any desert tortoise be injured or killed, all activities would be halted and the Authorized Biologist immediately contacted. The biologist would have the responsibility for determining whether the animal should be transported to a veterinarian for care, which is paid for by the Project Proponent, if involved. If the animal recovers, the USFWS is to be contacted to determine the final disposition of the animal; few injured desert tortoises are returned to the wild <p>Through the required pre-construction surveys, including onsite surveys anytime construction equipment is moved to a new location, as well as the implementation of PDFs and CMAs (Appendix F) summarized above, impacts to desert tortoise are expected to be fully avoided, or mitigated to less than significant levels.</p> <p>Additionally, pre-construction surveys would be conducted year-round prior to surface disturbance occurring per the PDFs and BLM-required additional mitigation measures included in Appendix F of the EA/MND.</p> <p>Furthermore, the BLM has engaged in consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.</p> <p>Lastly, the Project is an exploratory drilling project, and therefore no mining or significant ground disturbance will occur. For this reason, and through ongoing pre-construction surveys for desert tortoise, there would be no Project impacts to desert tortoise related to toxicant-based disease due to mining.</p> <p>For these reasons, the proposed mitigation measures required by the BLM for implementation, in addition to the proponent-committed PDFs in Appendix F of the EA/MND, have been deemed sufficient to avoid or mitigate environmental impacts to threatened and endangered species, including desert tortoise, to less than significant levels under the Proposed Action.</p>
28.0	28.15	California Department of Fish and Wildlife	<p><u>Minimizing Impacts to Other Species</u></p> <p>The MND/EA (Section 3.23.5) acknowledges that proposed Project activities have the potential to effect natural communities and lists common species identified during the biological surveys but includes no avoidance and minimization measures. Because of the potential for previously undetected wildlife to occur on the Project site, CDFW recommends inclusion of the following</p>	<p>As discussed in response to previous comments above, per the PDFs and BLM-required additional mitigation measures included in Appendix F of the EA/MND required pre-construction surveys and continued monitoring would take place during all phases of the Proposed Action by a BLM Authorized Biologist. Specifically, PDF-14 requires that a BLM-Qualified Biologist would be on-site during all Project activities or mobilization. Through the required pre-construction surveys, including onsite surveys anytime construction equipment</p>

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			<p>mitigation measure to allow non-listed, non-special- status terrestrial wildlife to leave or be moved out of harm's way:</p> <p>MM BIO-[G]: Minimizing Impacts to Other Species</p> <p>To avoid impacts to terrestrial wildlife, a qualified biologist shall be on-site prior to and during all ground- and habitat-disturbing activities to inspect the Project area prior to any Project activities. Individuals of any wildlife species found shall not be harassed and shall be allowed to leave the project area unharmed. If needed, a qualified biologist may guide, handle, or capture an individual non-listed, non-special-status wildlife species to move it to a nearby safe location within nearby refugium, or it shall be allowed to leave the project site of its own volition. Capture methods may include hand, dip net, lizard lasso, snake tongs, and snake hook. If the wildlife species is discovered or is caught in any pits, ditches, or other types of excavations, the qualified biologist shall release it into the most suitable habitat nearby the site of capture. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far a necessary to ensure their safety. Measures shall be taken to prevent wildlife from re-entering the Project site. Only biologists with appropriate authorization by CDFW shall move CESA-listed or other special-status species.</p>	<p>is moved to a new location, as well as the implementation of PDFs and CMAs (Appendix F), potential impacts to wildlife species would be fully avoided or mitigated to less than significant levels. Additionally, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[G], will also be implemented:</p> <ul style="list-style-type: none"> • PDF-10: Prior to Project activities, pre-construction migratory bird surveys would be conducted by a BLM-approved Qualified Biologist within 48 hours of proposed disturbance during the migratory bird breeding season (February 15 to August 31). These pre-construction surveys would also include vegetation surveys, including noxious and invasive species and special status species. Should active nests be identified during the pre-construction surveys, the following species-specific avoidance buffers would be implemented: 200 feet for non-ESA listed species; 300 feet for ESA listed species; and 500 feet for raptor species. No work would be conducted within the avoidance buffer areas until a BLM-approved Qualified Biologist determines that the nest is no longer active, fledglings are independent of the nest, the nest has failed, or the BLM approves a buffer reduction deemed appropriate by the Qualified Biologist. If an avoidance buffer needs to be reduced, SMP would contact the U.S. Fish and Wildlife Service (USFWS) and BLM and provide the necessary survey information to support the buffer reduction. • PDF-16: All workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on desert tortoise distribution, general behavior and ecology, protection afforded by state and federal endangered species acts (including prohibitions and penalties), procedures for reporting encounters, and the importance of following the protection measures. The education program may consist of a class or video presented by a BLM-approved Qualified Biologist. The presentation to be used would be reviewed and approved by a BLM biologist. • PDF-18: Personnel would be notified that desert tortoises are not to be handled, fed, or harassed in any way. If encountered, tortoises would be allowed space and time to move from the area on their own volition. • PDF-27: All trash and food items generated by construction and maintenance activities would be promptly contained and regularly removed from the Project site to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets would be provided on-site if appropriate.

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				<ul style="list-style-type: none"> • LUPA-BIO-IFS-14: Activity-specific active translocation of burrowing owls may be considered, in coordination with CDFW. • LUPA-BIO-IFS-24: Provide protection from loss and harassment of active golden eagle nests through the following actions: <ul style="list-style-type: none"> ○ Activities that may impact nesting golden eagles, will not be sited or constructed within 1-mile of any active or alternative golden eagle nest within an active golden eagle territory, as determined by BLM in coordination with USFWS as appropriate. <p>Appropriate biological monitoring and avoidance measures would be coordinated with the BLM should wildlife and vegetation species be identified during Project implementation.</p>
28.0	28.16	California Department of Fish and Wildlife	<p><u>Revegetation Plan</u></p> <p>Imperial County outlines their revegetation plan in the MND/EA Appendix A, Section 6.4 and in the MND/EA Reclamation Plan Application Attachment D. However, CDFW is concerned that the revegetation plan does not identify specific precautions that should be taken to reduce impacts to a level that is less than significant. Therefore, specific areas of focus are outlined below followed by the addition of an avoidance, minimization, and mitigation measure.</p> <p>The MND/EA (Reclamation Plan Application Attachment D, Section 2) acknowledges that vegetation in the Project area consists of low desert shrub dominated by creosote and brittlebush, in addition to disturbed habitats. However, CDFW is concerned that the habitat assessment conducted in March 2021 does not adequately specify or quantify the relative cover of each species in each of the seven Drill Areas. Specifically, before reclamation activities commence, CDFW encourages Imperial County to identify the alliances in the plan and list the species with corresponding relative cover that are found in each alliance in each Drill Area independently. In this way, Imperial County can use the species cover information as a success criterion to identify in detail which components of the communities they are trying to restore. Creosote bush shrubland alliance membership rules per the California Native Plant Society have been developed by local and regional vegetation studies and could offer localized understanding to provide better revegetation success.</p> <p>The MND/EA (Reclamation Plan Application Attachment D, Section 6) states seeds will be purchased from a commercial vendor. CDFW strongly encourages the seeds that are used be from local populations because using non-local seeds introduces plants that are not locally adapted to the area. Restoration projects that use species that are non-local often do not restore natural communities as intended but bring in non-local materials (i.e., genes, pathogens, outbreeding depression, etc.) (Mijnsbrugge et al. 2010) and distribute plants in unnatural groupings.</p>	<p>Revegetation of the disturbed areas would be completed in accordance with applicable BLM standards, as well as Section 3705 (Performance Standards for Revegetation) of the Surface Mining and Reclamation Act (SMARA). The goal of the revegetation efforts will be to ensure the reclaimed lands have a “vegetative cover or density, and species-richness...sufficient to stabilize the surface against effects of long-term erosion and...be similar to naturally occurring habitats in the surrounding area”.</p> <p>WestLand found that vegetation within the Project site is sparse in both the upland and xeroriparian habitats, and generally consist of a very low-density shrub community dominated by creosote (<i>Larrea tridentata</i>) and brittlebush (<i>Encelia farinose</i>). As such, the goal of revegetation will be to establish a similar plant community that is self-sustaining. Additionally, success criteria is identified within Section 2.6.5 of the Reclamation Plan, noting that site revegetation will be deemed successful upon achieving 25 percent of the vegetative cover of adjacent similar vegetation per 20-meter by 1-meter transects. Additionally, success for vegetation density shall be achieved by the establishment of 25 percent total plant cover per 20-meter by 1-meter transect. Similarly, species richness shall be achieved through the establishment of 4 native plant species per 20-meter by 1-meter transect. These species cover and richness success criteria metrics have been approved by both the BLM and County.</p> <p>The proposed revegetation seed mix is a native seed mixture that would be approved by the BLM prior to seeding activities. Seeds will be selected from a local vendor, if available, or from other sources as recommended by the qualified biologist/revegetation specialist. Just prior to seeding, the qualified biologist/revegetation specialist will determine the final species type and</p>

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			<p>The MND/EA (Section 2.1.2) mentions salvaged topsoil and subsoil will be used as a growth medium for revegetation. Salvaged topsoil and subsoil during mining activities is linked to two primary concerns: toxicants and soil age. Mineral mining often results in the delivery of heavy metal toxicants into nearby soil, water resources, and habitats, which is associated with illness in desert tortoise (Chaffee and Berry 2006). Additionally, soil age is an important factor to consider during vegetation restoration. Studies have found that microbial communities in soil stockpiles degraded drastically when stored up to 10-years and reduce plant performance (Gorzalak et al. 2020). Soil microbial communities play important role in ecosystem functioning and are essential for plant nutrition and health. CDFW is concerned that high levels of metals in soils near the mining areas would ultimately lead to negative biological impacts during revegetation. CDFW is also concerned about the length of time that topsoil will be stored in stockpiles unused as the microbial community within them will degrade and prevent successful revegetation. As a result, CDFW encourages Imperial County to test for heavy metals in their soil stockpiles prior to being used for revegetation and use the soil in a timely manner, preferable less than 10 years of being stored, to prevent the degradation of microbiota necessary for plant health.</p> <p>Activities related to revegetation could lead to negative impacts that cannot be reduced to a level less than significant if Imperial County does not account for species relative cover in their seed mix, sources non-local seeds, and/or disregards possible soil stockpile toxicants or age. As a result, CDFW recommends the following mitigation measure be included in a revised MND/EA or other CEQA document:</p> <p>MM BIO-[H]: Revegetation Plan</p> <p>Within 12 months prior to the initiation of Project activities, and during the appropriate periods (e.g., seasons, weather conditions, times of day) to identify species potentially occurring onsite, the Project proponent shall conduct general and, if necessary, focused biological surveys to identify alliances that occur on the Project site. The Project proponent shall list the species with corresponding relative cover that are found in each alliance in the surrounding area to provide a baseline for vegetation selection. Once the appropriate species are identified that are deemed appropriate to use in the vegetation restoration, the project proponent shall also identify the correct variety or subspecies appropriate for the borrow site locations. If the Project proponent intends to use a commercial vendor to obtain seed mixes, they should ensure that the vendor is using local seeds in their mix with the appropriate variety and subspecies. The Project proponent shall ensure topsoil stockpiles do not contain potentially harmful toxicants and are not stored for over a period of 10-years before being utilized during the vegetation restoration.</p>	<p>application rates based on the amount and quality of the seeds that are sourced for the Project. The qualified biologist/revegetation specialist will ensure that the selected seed mix, which will also be approved by the BLM, is from local populations. Detailed information of the type and amount of seed planted will be recorded.</p> <p>State law (i.e., SMARA Section 3711) requires that topsoil/subsoil be salvaged and maintained onsite for use as a growth medium for revegetation. Any topsoil/subsoil stored in separate stockpiles and/or berms will be maintained and BMPs implemented to minimize soil erosion. These measures will ensure the topsoil/subsoil would not be impacted by Project exploration activities, and would remain in a healthy growth medium for use in site reclamation/revegetation. Furthermore, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[H], will be implemented to ensure reclamation efforts comply with applicable CDFW requirements:</p> <ul style="list-style-type: none"> • PDF-31: All seed mixes and natural erosion products used for reclamation would be certified weed-free. • PDF-33: All revegetation efforts in the Project Area will be done with a BLM-approved native seed mix that closely matches the surrounding vegetation type. • LUPA-BIO-13: Implement the following CMA for project siting and Design: <ul style="list-style-type: none"> ○ Use nontoxic road sealants and soil stabilizing agents.

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28.0	28.17	California Department of Fish and Wildlife	<p><u>Noise</u></p> <p>Project exploration activities may result in substantial noise through access road use, equipment, and other Project-related activities. This may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55 to 60 dB (Barber et al. 2009). Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011). The MND/EA (Section 3.15.5) acknowledges that sources of construction noise from the Project will be generated using a combination of heavy equipment, including loaders and dozers with the potential to generate ground-borne vibration. Results from three noise scenarios calculated for the various potential equipment to be used in conjunction documented in Appendix E in Figures 1A-1C, Figures 2A-2C, Figures 3A-3C, and Figures 4A-4C, all show that noise levels are likely to exceed 55 dBA in the immediate project vicinity. However, the MND/EA includes no analysis of the impacts of Project-related noise to biological resources. Although the MND/EA includes mitigation measure LUPA-BIO-12 for noise, the timing and scope are insufficient to protect biological resources. Because of the potential for Project-related noise to negatively impact wildlife, CDFW recommends including the following mitigation measure:</p> <p>MM BIO-[I]: Noise</p> <p>Restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning). Do not use generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro- hydroelectric systems, or small wind turbine systems. Consider use of noise suppression devices such as mufflers or enclosure for generators. Sounds generated from any means must be below the 55-60 dB range within 50-feet from the source.</p>	<p>As discussed in response to Comment #22.3 above, no sensitive wildlife noise receptors were identified during baseline data collection or analysis of the Project. Overall, noise impacts under the Project would be negligible and short-term given that noise impacts from both exploratory drilling and helicopter use would not be stationary and would be temporary in nature. Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to any surface disturbance commencing to identify presence of wildlife species, in accordance with the measures required under the DRECP for impacts to biological resources (BLM 2015). Should the presence of wildlife species be identified, any additional avoidance or impact minimization measures, including those related to noise, would be coordinated with the BLM for implementation. Additionally, per Section 3.23.3 of the EA/MND, drills would be shielded per the standard equipment specifications during nighttime drilling.</p> <p>Furthermore, as discussed in response to Comment #24.2 above, PDF-11 states the Project would implement an avoidance setback of 500 feet around known bat roosts. Additionally, pre-construction desert tortoise surveys would be conducted by a BLM Authorized or Qualified Biologist within the area to be disturbed, plus a 500-foot buffer, and the BLM Authorized or Qualified Biologist would be onsite during initial Project activities or mobilization.</p> <p>Acoustic modeling was conducted to determine the furthest distance that noise generated by the Project would travel, attenuating at 25 dBA, a nearly imperceptible level of noise to the human ear (Saxelby 2022). The BLM did not identify wildlife sensitive receptors during baseline data collection for noise and/or vibrational impacts as a result of drilling activities. The Project would be temporary and not stationary to one location as Project activities would move between each Drill Area. CMA LUPA-BIO-12 would also be implemented to minimize noise impacts to BLM special status and sensitive wildlife species (including threatened and endangered species), as described in Appendix F of the EA/MND. Impacts to Mojave Desert tortoise under the Project are anticipated to be minor, short-term, and localized. Furthermore, the BLM has engaged in consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.</p>

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				<p>Additionally, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[I], will be implemented to ensure potential impacts related to noise are properly avoided and/or mitigated:</p> <ul style="list-style-type: none"> • LUPA-BIO-12: For activities that may impact Focus or BLM Special Status Species, implement the following LUPA CMA for noise: <ul style="list-style-type: none"> ○ To the extent feasible, and determined necessary by BLM to protect Focus and BLM sensitive wildlife species, locate stationary noise sources that exceed background ambient noise levels away from known or likely locations of BLM sensitive wildlife species and their suitable habitat. ○ Implement engineering controls on stationary equipment, buildings, and work areas including sound-insulation and noise enclosures to reduce the average noise level, if the activity will contribute to noise levels above existing background ambient levels. ○ Use noise controls on standard construction equipment including mufflers to reduce noise. <p>Based upon the results of the EA/MND analysis, and through the continued implementation of the PDFs and CMAs (Appendix F) summarized above, potential noise impacts would be less than significant, with no additional mitigation required.</p>
28.0	28.18	California Department of Fish and Wildlife	<p><u>Artificial Light</u></p> <p>Artificial nighttime lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; and the detection of resources and natural enemies and navigation (Gatson et al. 2013). Many species use photoperiod cues for communication (e.g., bird song; Miller 2006), determining when to begin foraging (Stone et al. 2009), behavior thermoregulation (Beiswenger 1977), and migration (Longcore and Rich 2004). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004).</p> <p>The MND/EA (Section 3.21.5) indicates nighttime operations would require the use of artificial light; however, impacts to biological resources are not analyzed. Although the MND/EA includes mitigation LUPA-BIO-13 for light, the timing and scope are insufficient to protect biological resources. The direct and indirect impacts of artificial nighttime lighting on biological resources</p>	<p>As discussed in response to Comment #21.3 above, shielded lights on drilling equipment is a standard equipment feature that would be used during nighttime drilling to limit visual impacts from night lighting in the Project Area and is not included as a mitigation measure. Although some of the known bat species with potential to be present within the Project Area do not depend on “hawking” insects from the air and therefore would likely not be drawn to insect population that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on “hawking” insects rather than foraging from the ground and/or vegetation.</p> <p>Additionally, although not prescribed as a mitigation measure, Section 3.21.5 of the EA/MND notes that operations during the time of year when daylight hours are shorter, or for any required outdoor nighttime operations, only minimal nighttime lighting would be employed to provide a safe working environment. If nighttime lighting is required, high-pressure sodium and/or cut-off fixtures (or equivalent International Dark-Sky Association-approved fixtures) would be used instead of mercury-vapor fixtures for any required nighttime lighting. Additionally, the lighting fixtures would be used in manner intended to illuminate</p>

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			<p>including migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife should be analyzed, and appropriate avoidance and minimization measures should be included in a revised MND/EA or other CEQA document. Because of the potential for artificial nighttime lighting used during construction to impact biological resources, CDFW recommends that the revised MND/EA or other CEQA document include the following mitigation measure:</p> <p>MM BIO-[J]: Artificial Light</p> <p>During Project construction and operation, Imperial County shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light during the hours of dawn and dusk when many wildlife species are most active. The County shall ensure that lighting for Project activities is shielded, cast downward, and does not spill over onto other properties or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Use LED lighting with a correlated color temperature of 3,000 Kelvins or less, properly dispose of hazardous waste, and recycle lighting that contains toxic compounds with a qualified recycler.</p>	<p>work areas within the Project site, and/or to areas that do not include light-sensitive uses.</p> <p>Additionally, per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be constructed prior to surface disturbing activities in order to identify presence of both wildlife and vegetation species that may require coordinated avoidance, including measures related to artificial light, with the BLM.</p> <p>Additionally, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[J], will be implemented to ensure potential impacts related to artificial light are properly avoided and/or mitigated:</p> <ul style="list-style-type: none"> • PDF-11: During the bat maternity season (April 1 to August 31), SMP would implement a 500-foot avoidance buffer for drilling activities around features with evidence of use by BLM sensitive bat species. No prolonged drilling activity (i.e., drill site operations) would occur within this buffer; however, overland travel via access routes through the buffer would be permitted. SMP would utilize shielded lights that would limit nighttime drilling lighting within the avoidance buffers. • LUPA-BIO-13: <ul style="list-style-type: none"> ○ Long-term nighttime lighting on project features will be limited to the minimum necessary for project security, safety, and compliance with Federal Aviation Administration requirements and will avoid the use of constant-burn lighting. ○ All long-term nighttime lighting will be directed away from riparian and wetland vegetation, occupied habitat, and suitable habitat areas for Focus and BLM Special Status Species. Long term nighttime lighting will be directed and shielded downward to avoid interference with the navigation of night-migrating birds and to minimize the attraction of insects as well as insectivorous birds and bats to project infrastructure. <p>Based upon the results of the EA/MND analysis, and through the continued implementation of the PDFs and CMAs (Appendix F) summarized above, potential lighting impacts would be less than significant, with no additional mitigation required. For these reasons, the minimal use of nighttime lighting would not create undue light pollution, nor result in a significant impact to nocturnal wildlife species.</p>
28.0	28.19	California Department of Fish and Wildlife	<u>CDFW's Lake and Streambed Alteration Program</u>	As discussed under Comment #26.4, the Tumco Wash, depicted on Figure 2-1 of the EA/MND is an ephemeral wash and conveys water only during storm events,

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			<p>Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. Note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. Upon receipt of a complete notification, CDFW determines if the proposed Project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify the Project that would eliminate or reduce harmful impacts to fish and wildlife resources.</p> <p>CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). To facilitate issuance of an LSA Agreement, if necessary, the MND/EA should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To submit a Lake or Streambed Alteration notification, visit: https://wildlife.ca.gov/Conservation/Environmental-Review/LSA.</p> <p>The MND/EA (Section 3.22.2) indicates that "a total of 432 aquatic resource features (i.e., drainages, tributaries, stream channels), including one pond, have been mapped within and in the vicinity of the Project Area." CDFW recommends the following mitigation measure be added to a revised MND/EA or other CEQA document:</p> <p>MM BIO-[K]: Lake and Streambed Alteration (LSA) Program</p> <p>Prior to Project-activities and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, or the Project Sponsor shall obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.</p>	<p>as stated in Section 3.22.3 of the EA/MND. The Project would require a Construction Stormwater General Permit (CGP) pursuant to the Regional Water Resources Control Board National Pollutant Discharge Elimination System requirements, and a BLM approved SWPPP would be developed and implemented to control sedimentation from disturbance associated with Project activities. The Project would also require a Lake and Streambed Alteration (LSA) Agreement with the California Department of Fish and Wildlife (CDFW) pursuant to California Fish and Game Code Section 1602. Potential impacts to surface water quality would be minimized by the implementation of the PDFs outlined in Appendix F, as well as incremental reclamation. Additional CMAs would also be implemented to minimize resource conflicts and water quality impacts, described in Appendix F. For these reasons, the Project would have a negligible, short-term, and localized potential impacts on surface water resources, and potential impacts would be avoided or mitigated to less than significant levels through the implementation of the BLM-approved SWPPP. All Project access roads would be used strictly for Project support vehicles to access the exploration Drill Areas, and they would be signed as having limited access to prevent public use. Please note that the text of the EA/MND has been clarified to state the proposed new access road leading to Drill Area 1 would not be permanent – it would remain as a post-exploration feature for reclamation, monitoring, and underground exploration activities until complete, anticipated within five years. Additionally, pre-construction surveys would be conducted prior to any surface disturbance activity. Any results from the pre-construction surveys that may require additional impact minimization or avoidance measures, including those related to surface waters, would be coordinated with the BLM.</p> <p>As discussed under Comment #23.5, potential impacts to surface and groundwater under the Proposed Action, including water quality, would be negligible, short-term, and localized per the analysis provided in Section 3.22.3, and were found to be less than significant through implementation of appropriate avoidance and mitigation measures. Additionally, the Project would acquire the necessary waters of the state permitting, including the Lake and Streambed Alteration (LSA) Agreement with the CDFW, and a Construction Stormwater General Permit with the Regional Water Quality Board pursuant to California State Water Resources Control Board requirements. As such, neither undue impairment nor pollution of streams and waters within the CDCA would occur under the Project. An LSA application was submitted to the CDFW for the Project, and either final approval or concurrence that no Waters of the State (WOTS) will be impacted by the Project will be obtained from the CDFW prior to any ground-disturbing activities. Similarly, a draft SWPPP has been</p>

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				<p>prepared for the Project site. The SWPPP, which has been reviewed and approved by the BLM, will be submitted to and approved by the Water Board prior to any ground-disturbing activities. Note that through obtaining the necessary approvals from both the CDFW and the Water Board, the Project would address CDFW's recommended measures under MM BIO-[K], and impacts would be less than significant.</p>
28.0	28.20	California Department of Fish and Wildlife	<p><u>Employee Awareness of Wildlife Resources</u></p> <p>CDFW is concerned that because the Project area is surrounded by open desert, reclamation activities will bring biological hazards common to urban areas to the rural landscape. Waste management must be a priority as accessible waste can encourage opportunistic species such as rats, ravens, and coyotes to become more prevalent, posing a substantial predation hazard to wildlife. Predators like ravens and coyotes are both known to prey on desert tortoise and other sensitive species. Waste management plans should include waste receptacles with closing, lockable lids and a waste removal schedule that does not allow for excess waste to accrue. Increased traffic may also pose a hazard to species in the form of vehicle-animal collisions, which often lead to the death of the animal. For slow-moving species like desert tortoise, busy access roads in their territory can have a significant impact on populations. Project activities, including all phases of the mining plan for the life of the Project, will affect local wildlife. Part of the Project Proponent's responsibility is to educate individuals that will be on-site, whether they are employees or contractors, on the wildlife species that may be present and how to limit impacts to wildlife species in the area. CDFW recommends that the following mitigation measure be added to the revised MND/EA or other CEQA document:</p> <p>MM BIO-[L]: Employee Awareness of Wildlife Resources</p> <p>A qualified biologist shall conduct an education program for all persons employed or otherwise working on the Project site prior to performing any work on-site. The program shall consist of a presentation that includes a discussion of the biology of the habitats and species that may be present at the site. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and mitigation measures. The Employee Education Program should include, but not be limited to: (1) best practices for managing waste and reducing activities that can lead to increased occurrences of opportunistic species and the impacts these species can have on wildlife in the area; (2) protected species that have the potential to occur on the Project site including, but not limited to, rare and sensitive plants, burrowing owl, desert tortoise, Colorado Desert Fringe-toed Lizard, bats, and nesting birds; (3)</p>	<p>As discussed throughout the EA/MND, as well as within the Plan of Operations (SMP 2021) and the Reclamation Plan (Sespe 2022), all onsite workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on distribution, general behavior and ecology, protection afforded by State and Federal endangered species acts (including prohibitions and penalties), and procedures for reporting encounters, and the importance of following the protection measures. See the 17 avoidance and minimization measures outlined in the Plan of Operations (Appendix A of the EA/MND) which provide additional detail related to worker training and wildlife education programs, maintenance of onsite roads and speed limit requirements, food and trash management, etc.</p> <p>Minimal quantities of any non-hazardous trash generated by the contractors and onsite employees would be collected in appropriate containers and removed as required in accordance with applicable laws and regulations. No refuse would be disposed of onsite.</p> <p>Additionally, the following PDFs and CMAs, which are similar in nature to CDFW's suggested MM BIO-[L], will be implemented to ensure onsite employees are properly trained to avoid and/or mitigate potential effects to wildlife and biology:</p> <ul style="list-style-type: none"> PDF-16: All workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on desert tortoise distribution, general behavior and ecology, protection afforded by state and federal endangered species acts (including prohibitions and penalties), procedures for reporting encounters, and the importance of following the protection measures. The education program may consist of a class or video presented by a BLM-approved Authorized or Qualified Biologist. The presentation to be used would be reviewed and approved by the BLM Wildlife biologist or another BLM biologist.

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			<p>the location of conservation areas, as well as the importance of ensuring that no refuse or pollution enters the streams or conservation areas and that encroachment into the streams and conservation areas is not permitted during construction or other Project activities. Interpretation shall be provided for any non-English-speaking workers, and the same instruction shall be provided for any new workers prior to their performing any work on- site.</p>	<ul style="list-style-type: none"> PDF-28: Feeding of wildlife and/or leaving of food or trash as an attractive nuisance to wildlife is prohibited. Particular attention would be paid to “micro-trash” (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny). All trash and food items would be promptly contained within closed, wildlife-proof containers. These would be regularly removed from the Project site to reduce the attractiveness of the area to ravens and other predators. <p>Based upon the results of the EA/MND analysis, and through the continued implementation of the PDFs and CMAs (Appendix F) summarized above, onsite employees will be sufficiently trained to ensure impacts to biological resources are avoided, with no additional mitigation required.</p>
28.0	28.21	California Department of Fish and Wildlife	<p>ENVIRONMENTAL DATA</p> <p>CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a data base which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data. The types of information reported to CNDDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals.</p>	<p>As needed, special-status species and natural communities detected during Project surveys, both those already prepared for the EA/MND as well as future site surveys required during the life of the Project, will be reported to the California Natural Diversity Database (CNDDDB). Any relevant special-status species or natural communities observed during the ongoing pre-construction surveys will be appropriately reported to the CNDDDB.</p>
28.0	28.22	California Department of Fish and Wildlife	<p>ENVIRONMENTAL DOCUMENT FILING FEES</p> <p>The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)</p>	<p>The County will ensure that the proper CDFW filing fees have been paid in accordance with applicable State law.</p>
28.0	28.23	California Department of Fish and Wildlife	<p>CONCLUSION</p> <p>CDFW appreciates the opportunity to comment on the MND/EA to assist Imperial County in identifying and mitigating Project impacts on biological resources. CDFW concludes that the MND/EA does not adequately identify or mitigate for the Project’s significant, or potentially significant, impacts on biological resources. CDFW is concerned that the proposed Project may result in significant impacts to the environment and that the MND/EA may not be appropriate for the Project because of the difficulty of determining impacts and whether those impacts have been</p>	<p>Thank you for your comments. As discussed under Comment #28.3 regarding CDFW’s comment on whether the EA/MND is the appropriate level of environmental documentation for the Project, consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND can be adopted (§21080). Specifically, the statute provides that MNDs may be used, “when the initial study has identified potentially significant effects on the environment, but (1) revisions</p>

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			<p>mitigated to a level that is less than significant. If the revised MND/EA cannot demonstrate that impacts to biological resources are mitigated to a level that is less than significant, CDFW recommends that an Environmental Impact Report be prepared by Imperial County for the Project.</p> <p>CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts. Questions regarding this letter or further coordination should be directed to Alyssa Hockaday, Senior Environmental Scientist (Specialist), at (760) 920-8252 or Alyssa.Hockaday@wildlife.ca.gov.</p>	<p>in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County also held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-member panel representing various County agencies/organizations. Through this public process, the EEC determined that the mitigation measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of review/documentation for the project.</p> <p>Furthermore, as discussed in response to Comment #23.25 above, the BLM is the sole owner of the land where the Project is proposed, and therefore Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant to SMARA. As such, the “project” evaluated under CEQA would be those activities specific to site reclamation. Nonetheless, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated under CEQA and NEPA.</p>
29.0	29.1	Center for Biological Diversity	<p>Dear Mr. Abraham:</p> <p>These comments are submitted on the IS21-0029 SMP Gold Corp (Oro Cruz) Reclamation Plan #21-0001 Mineral Exploration Project (SCH No. 2022120331) (“Project”) from Center for Biological Diversity, Western Watersheds Project, Earthworks, the Sierra Club California/Nevada Desert Committee, Conservation Lands Foundation, Greenaction for Health and Environmental Justice, Mojave Desert Land Trust, California Native Plant Society, and the Ahmut Pipa Foundation (collectively “Conservation Organizations”). These comments supplement and incorporate by reference our previous comments (dated December 16, 2022) on BLM’s Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) and proposal to approve the Plan of Operations for the SMP Gold Corp. These comments were sent to the County and are also attached as Exhibit 1. The Conservation Organizations have reviewed the Environmental Assessment and</p>	<p>Thank you for your comments. Note that both comment letters received from the Conservation Organizations have been incorporated by reference pursuant to NEPA and CEQA.</p> <p>As discussed in response to Comment #23.1 above, the BLM held a public comment period from November 16 – December 16, 2022 in accordance with the NEPA process for the EA portions of the joint document. Although a joint document was prepared by the BLM and Imperial County in accordance with NEPA and CEQA, the two analyses are considered separate for the two separate review processes under NEPA and CEQA by the lead agencies. Although the two agencies have coordinated, the review and decision-making processes are considered separate under the two regulations. The public review periods for the</p>

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			<p>Mitigated Negative Declaration (“EA/MND”) and associated environmental review documents closely and are concerned that Imperial County (“County”) has failed to adequately disclose, analyze, and mitigate the Project’s significant environmental impacts as required under the California Environmental Quality Act, Public Resources Code section 21000 et seq. (“CEQA”) and 14 California Code of Regulations section 15000 et seq. (“CEQA Guidelines”). The Conservation Organizations urge the County to prepare and circulate an Environmental Impact Report (“EIR”) for the Project prior to taking any further action on the Project application.</p>	<p>EA/MND for comments related to the NEPA and CEQA analyses were attempted to be as aligned as possible.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action per the analysis in the EA/MND that no significant impacts would occur under the Proposed Action.</p> <p>Consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND can be adopted (§21080). Specifically, the statute provides that MNDs may be used, “when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-member panel representing various County agencies/organizations. Through this public process, the EEC determined that the mitigations measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of</p>

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				<p>review/documentation for the project. Further, public controversy over the possible environmental effects of a project is not sufficient reason to require an EIR "if there is no substantial evidence in light of the whole record before the Lead Agency that the project may have a significant effect on the environment" (§ 21082.2).</p> <p>Furthermore, as discussed in response to Comment #23.25 above, the BLM is the sole owner of the land where the Project is proposed, and therefore Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant to SMARA. As such, the "project" evaluated under CEQA would be those activities specific to site reclamation. Nonetheless, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated under CEQA and NEPA.</p>
29.0	29.2	Center for Biological Diversity	<p>I. The County Must Prepare an EIR for the Project.</p> <p>CEQA was enacted for the state to "take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state" and to "[e]nsure that the long-term protection of the environment . . . shall be the guiding criterion in public decisions." (Pub. Res. Code § 21001.) The CEQA Guidelines state that "CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language," and that "[t]he purpose of CEQA is . . . to compel government at all levels to make decisions with environmental consequences in mind." (CEQA Guidelines § 15003.) CEQA is an information document and, as such, "requires full environmental disclosure." (Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 89.)</p> <p>Only when "there is no substantial evidence in light of the whole record before the public agency that the project . . . may have a significant effect on the environment" may an agency prepare a negative declaration or mitigated negative declaration instead of an EIR. (Pub. Res. Code § 21064.5; <i>see also id.</i> §§ 21064, 21080(c).) A mitigated negative declaration, in particular, is prepared "when the initial study has identified potentially significant effects on the environment, but . . . revisions in the project plans or proposals . . . would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur" and there is no substantial evidence the project may have a significant effect on the environment. (<i>Id.</i> § 20164.5.) If there is substantial evidence that a project may have a significant effect on the environment, an agency must prepare an EIR. (<i>Id.</i> § 21080(d).)</p> <p>If an agency is presented with so much as "a fair argument that a project may have a significant effect on the environment, the lead agency shall prepare an EIR even though it may also be</p>	<p>See previous responses to Comments #23.1 and #23.26 above.</p> <p>Consistent with the CEQA statutes, if a project is found to have no adverse effects, or if the potential effect can be reduced to a level that is less than significant through project revisions/mitigations, a Negative Declaration or MND can be adopted (§21080). Specifically, the statute provides that MNDs may be used, "when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment" (§21064.5). In summary, if all potential significant impacts can be eliminated or reduced to less than significant, a MND can be prepared in lieu of an EIR. Through preparation of a detailed initial study, as well as a detailed suite of technical studies, Imperial County determined that an MND was the appropriate project document under CEQA. The County held an Environmental Evaluation Committee (EEC) meeting on November 17th, 2022, where a draft version of the initial study/MND was presented to the public, and to a seven-member panel representing various County agencies/organizations. Through this public process, the EEC determined that the mitigations measures as proposed would reduce the significant effects to a less than significant level, or project design features as included would avoid them all together. For these reasons, the County found that an MND was the appropriate CEQA level of</p>

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			<p>presented with other substantial evidence that the project will not have a significant effect.” (CEQA Guidelines § 15064(f)(1); <i>see also No Oil, Inc. v. Los Angeles</i> (1974) 13 Cal.3d 68, 75.)</p> <p>The CEQA Guidelines provide guidance for determining if a project’s effects are significant. Such a determination “calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data” and a “consider[ation of] the views held by members of the public in all areas affected.” (<i>Id.</i> § 15064(b)-(c).) The lead agency must consider both direct and indirect physical changes in the environment caused by the project. (<i>Id.</i> § 15064(d).)</p> <p>CEQA also requires consideration of cumulative impacts. An EIR is required “if the cumulative impact may be significant and the project’s incremental effect, though individually limited, is cumulatively considerable . . . when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects.” (<i>Id.</i> § 15064(h)(1).) Cumulatively considerable environmental effects require a mandatory finding of significance. (<i>Id.</i> § 15065(a)(3).)</p> <p>CEQA also has a substantive mandate and requires effective mitigation. “Public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.” (Pub. Res. Code § 21002.) CEQA requires mitigation measures to be “fully enforceable through permit conditions, agreements, or other measures.” (<i>See id.</i> § 21081.6(b); CEQA Guidelines § 15126.4(a)(2).) “Formulation of mitigation measures should not be deferred until some future time.” (CEQA Guidelines § 15126.4(a)(1)(B).)</p> <p>The Project’s impacts on biological resources, air quality and greenhouse emissions, energy, water supply, cultural resources and numerous other factors are readily apparent given the type, location and scale of the project. Any one of these factors alone is sufficient to warrant preparation of an EIR.</p>	<p>review/documentation for the project. Further, public controversy over the possible environmental effects of a project is not sufficient reason to require an EIR “if there is no substantial evidence in light of the whole record before the Lead Agency that the project may have a significant effect on the environment” (§ 21082.2).</p> <p>Although not required under CEQA for an MND, direct and indirect (i.e., cumulative) impacts are discussed for all present and potentially affected resources under NEPA within Chapter 3 of the EA/MND. Cumulative impacts to resources that are anticipated to have greater than negligible impacts, per the requirements under the BLM NEPA Handbook (ManualH-1790-1, BLM 2008) stating that a cumulative effects analysis is not needed on resources determined to not be impacted by the Project, alternatives (pg. 57), are also discussed within Chapter 3 for Native American Religious Concerns and Traditional Values, Recreation, Soils, Vegetation, and Wildlife resources.</p> <p>Furthermore, although also not required under CEQA for an MND, the BLM considered the following three alternatives to the Project (see Section 2.3 of the EA/MND) to be reasonable for consideration in accordance with 40 CFR 1501.5 and the requirements of Section 102(2)(E) of NEPA: Access Road Restriction Alternative, Seasonal Restriction Alternative, and Helicopter Access Only Alternative. The consideration for each alternative for analysis is described in each subsection of Section 2.3. All three alternatives that were considered in addition to the Proposed Action/Project and No Action Alternative were deemed infeasible per the justifications provided in Section 2.3 and were eliminated from further analysis in the EA/MND.</p> <p>Lastly, due to the nature of the Project (i.e., an exploratory drilling project), in general the EA/MND found that potential environmental effects would be negligible, short-term, and localized, and would either be avoided or mitigated to less than significant levels through the implementation of the measures described in the EA/MND. Additionally, following the exploratory drilling phase (estimated to last between 12 and 24 months), the entirety of the disturbed areas would be reclaimed in accordance with applicable State and Federal laws. As such, all potential environmental effects were sufficiently avoided or mitigated to less than significant levels, and therefore the County determined an MND was the appropriate level of CEQA documentation, and that an EIR would not be required.</p>

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				<p>As discussed above, the BLM is the sole owner of the land where the Project is proposed; therefore, Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein, pursuant to SMARA. As such, the “project” evaluated under CEQA includes those activities specific to site reclamation. Nonetheless, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated, although Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant to SMARA. Both the public and the County EEC panel members reviewed the entirety of the joint CEQA/NEPA document when rendering the decision to prepare an EA/MND for the Project.</p>
29.0	29.3	Center for Biological Diversity	<p>II. The EA/MND Lacks an Adequate Analysis of and Mitigation for the Project’s Impacts to Biological Resources</p> <p>The EA/MND lacks adequate detail in the description and analysis of special-status species that occur, have the potential to occur, or historically occurred in and near the Project area. Below we provide just a few illustrative examples of the EA/MND’s shortcomings in this respect, though this is not a comprehensive list. The below information provides ample support of a fair argument that the project may have a significant effect on the environment. Accordingly, the County must prepare an EIR. (CEQA Guidelines § 15064(f)(1); see also <i>No Oil, Inc. v. Los Angeles</i> (1974) 13 Cal.3d 68, 75.)</p>	<p>Please refer to the response to Comment #23.1, #23.26 and #29.2 regarding the determination to prepare an EA/MND pursuant to NEPA and CEQA implementing regulations. The BLM and Imperial County confirm that the Center for Biological Diversity, the Sierra Club California/Nevada Desert Committee, Western Watersheds Projects, Earthworks, California Native Plant Society, Greenaction for Health and Environmental Justice, Conservation lands Foundation, Desert Land Trust, and Ahumt Pipa Foundation are on the interested parties list.</p> <p>As discussed under Comment #26.1, #28.6 and #28.8 above, biological baseline surveys, including special-status surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Based upon the baseline surveys, for those special-status species that were determined to be potentially impacted by the proposed Project, appropriate avoidance and mitigation measures were proposed, and described in the EA/MND, to ensure potential impacts would be less than significant.</p> <p>Additionally, per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities under the Project and would ensure that any further potential impacts remain less than significant, and that additional minimization or avoidance measures would be coordinated with the BLM as necessary and appropriate based on the findings of the surveys. Furthermore, should special status plants be identified during pre-construction surveys, barrier fencing would be required to be implemented around individual plants to minimize impacts to special status species.</p>

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29.0	29.4	Center for Biological Diversity	<p>A. Desert Tortoise Are a Special Status Species, the Impacts to Which are Presumed to be Significant.</p> <p>The CEQA Guidelines indicate that a Project can be expected to have significant impacts to biological resources if the Project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (CEQA Guidelines, Appendix G, subd. IV(a).) Accordingly, the EA/MND itself indicates that the Project’s impacts will be significant if it will “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate . . . species . . . by the California Department of Fish and Game.” (EA/MND at 102¹; see also CEQA Guidelines § 15065(a)(1) [when performing an initial study, agencies shall make a mandatory finding of significance where a proposed project has the potential to substantially reduce the number or restrict the range of a listed species], California Fish and Game Code § 2085 [CESA candidate species treated like threatened or endangered species].)</p> <p>The Mojave Desert Tortoise is listed as threatened under the Endangered Species Act and California Endangered Species Act (“CESA”). (55 Fed. Reg. 12178 12191, 14 CCR § 670.5.) The tortoise has been the official State Reptile since 1972. (Assembly Bill 1089, Chapter 683, 1972.) In addition, on October 14, 2020, the California Fish and Game Commission (“CFGC”) advanced the Mojave Desert Tortoise to candidacy to uplist it from threatened to endangered under CESA, protecting these imperiled species from harm during the ongoing review process. (CFGC 2020.) Consequently, the Project’s impacts to the desert tortoise must be considered significant and fully evaluated and disclosed to the public. (<i>Nelson v. Cnty. of Kern</i> (2010) 190 Cal.App.4th 252, 284 [information before County showing that mining exploration project could significantly impact plant and animal life in the area meets the fair argument test to require preparation of an EIR].)</p> <p>Desert tortoise are on the decline throughout their range, including in Imperial County (Allison and McLuckie 2018). In this area, the desert tortoise are part of the most southern population in California, where they endure the most arid and hottest habitat in California. As noted in our attached comments on the NEPA document, “the Picacho Area of Environmental Concern (ACEC) was established in part to conserve the declining Mojave desert tortoise.” (Exhibit 1 at p. 21; BLM 2016.)</p> <p>With active burrows and tortoise sign found in some of the drill areas (EA at 98), it is incumbent that these animals be protected from any harms. The EA/MND assumes that any impacts will be mitigated to less-than-significant levels with the avoidance, minimization and mitigation measures outlined in Appendix F, Table F-3. The proposed measures are wholly inadequate to protect the on-site desert tortoise. Accordingly, the Project’s impacts will remain significant and should be</p>	<p>See previous comment responses related to the Desert Tortoise, primarily in response to Letter #4 received from the Desert Tortoise Council. Also see the response to Comment #28.15 received from the CDFW.</p> <p>Per the analysis in Section 3.23.3 of the EA/MND, potential Project effects to threatened and endangered species (including Mojave Desert tortoise), special status species, and general wildlife species are anticipated to be negligible to minor, short-term, and localized, and the avoidance and mitigation measures outlined within the EA/MND would ensure potential impacts to Mojave Desert tortoise would be mitigated to less than significant levels. Several PDFs have been developed by the proponent for implementation during the Project to minimize impacts. Additional wildlife-specific mitigation measures would be required for implementation by the BLM, as outlined in Appendix F of the EA/MND. Specifically, detailed desert tortoise avoidance measures (17 total), summarized within the Plan of Operations (Appendix A of the EA/MND), would be implemented onsite. These include but are not limited to pre-construction tortoise surveys, onsite monitoring during tortoise active season, and employee training. Additionally, as discussed in Section 3.23.3 of the EA/MND, SMP has committed to conducting pre-construction surveys within 48 hours of surface disturbance within the species-specific buffers outlined in Appendix F of the EA/MND from the area to be disturbed in order to avoid impacts to special-status species.</p> <p>In addition to the PDFs/CMAs cited by the CDFW, PDF-21 included in Table F-1 of Appendix F of the EA/MND would also be implemented, which notes that if a tortoise is encountered during construction activities, work would be halted immediately per the authority of a designated Field Contact Representative (who would be a BLM-approved Authorized or Qualified Biologist), who would be on-site year round within 24 hours of Project activities commencing. Only a BLM-approved Authorized Biologist would move the tortoise from harm’s way, or until the tortoise leaves of its own accord. If a desert tortoise is discovered in harm’s way, an Authorized Biologist would move the tortoise into adjacent habitat following the latest USFWS clearance and handling procedures. The tortoise would not be moved more than 300 meters from their capture location. If the Authorized Biologist observes significant clinical signs of ill health, the tortoise should be removed from the wild in coordination with the USFWS. If suitable habitat is not available within 300 m of the tortoises’ capture locations or other land ownership restrictions prevent the release of individuals within 300 meters (e.g., privately owned land lacking permission), the tortoise should be</p>

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			<p>considered in an EIR. In that analysis the County must consider adoption of the following additional feasible mitigation measures at minimum:</p> <ul style="list-style-type: none"> • Commit to secure an “incidental take permit” from the California Department of Fish and Wildlife, in addition to the Federal “take” permit, prior to any groundbreaking activities; • Preconstruction surveys prior to the proposed project implementation; • On-site biological monitor during project implementation who has wildlife agency permits to move desert tortoise out of harm’s way; • Fencing of all worksites, roads and other areas of disturbance associated with the proposed project; <p>A detailed raven plan that effectively discourages ravens from being drawn to the site during proposed project implementation as well as during the restoration efforts and fencing removal.</p>	<p>translocated to the Recipient Site identified in the revised Figure 3-14 of the EA/MND.</p> <p>Additionally, pre-construction surveys would be conducted year-round prior to surface disturbance occurring per the PDFs and BLM-required additional mitigation measures included in Appendix F of the EA/MND.</p> <p>Furthermore, the BLM has engaged in consultation with the USFWS pursuant to Section 7 of the Endangered Species Act for approval of an Activity Request Form under the Programmatic Biological Opinion for Mojave Desert tortoise.</p> <p>For these reasons, the proposed mitigation measures required by the BLM for implementation, in addition to the proponent-committed PDFs in Appendix F of the EA/MND, have been deemed sufficient to minimize environmental impacts to threatened and endangered species, including Mojave Desert tortoise, to less than significant levels under the proposed Project.</p>
29.0	29.5	Center for Biological Diversity	<p>B. The EA/MND Does Not Adequately Describe the Environmental Baseline for Various Other Species.</p> <p>The EA/MND fails to provide adequate baseline information and description of the environmental setting for species other than the desert tortoise. This deficiency extends to the EA/MND’s treatment of rare plants, animals, and communities. For some species or habitats baseline conditions are lacking or totally absent and as a result no impact assessment is provided for these biological resources. The failure to address numerous species may be the result of inadequate surveys.</p>	<p>As discussed under Comment #26.1, #28.6 and #28.8 above, biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Per the impact analysis in Section 3.20.3 and the reclamation measures that would be conducted on all disturbed surfaces, long-term impacts from habitat removal would be reduced. Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would also be conducted prior to surface disturbing activities under the Proposed Action and any further impact minimization or avoidance measures would be coordinated with the BLM as necessary and appropriate based on the findings of the surveys. Furthermore, should special-status wildlife or plants be identified during pre-construction surveys, barrier fencing would be required to be implemented around individual plants to minimize impacts to special status species.</p>
29.0	29.6	Center for Biological Diversity	<p>1. Flat-tailed horned lizard and Colorado fringe-toed lizard</p> <p>The EA/MND (at 79) states that surveyors found small sand patches in the western edge of the area of analysis during March 2021 plant surveys. The Plan of Operations states that loose sandy soils are present in the project area. Sandy soils are the preferred habitat for the imperiled flat-tailed horned lizard <i>Phrynosoma mcallii</i> and the Colorado Desert fringe-toed lizard (<i>Uma notata</i>), both of which are State Species of Special Concern (Thompson 2016). These reptile species may have been dormant in underground burrows or inactive during the surveys which were performed in March 2021. California Department of Wildlife’s recommendations for managing the flat-tailed horned</p>	<p>As discussed previously in response to Comment #23.16, per the requirements and assessment for LUPA-BIO-IFS-10 related to flat-tailed horned lizards in the CMA table in Appendix B, habitat is not included in the DRECP flat-tailed horned lizard species distribution model and identified occurrence of this species has not been documented within the Project Area, but outside the area of disturbance. Furthermore, per Tables 5 and 6 of the Biological Resource Technical Report and Assessment (WestLand 2021), there is no potential of occurrence within the Project Area for flat-tailed horned lizard. Per the baseline report, some habitat does exist within the Project Area for Colorado fringe-toed</p>

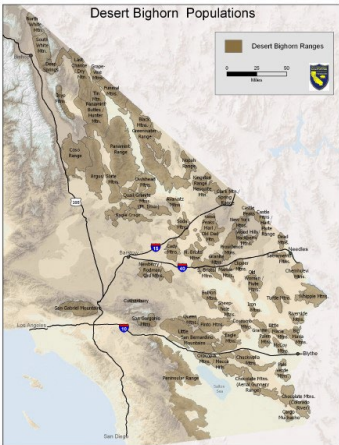
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			<p>lizard include “limit[ing] habitat disturbance and destruction. Development that leads to habitat conversion or fragmentation should be avoided or limited in ... habitat.” (<i>Ibid.</i>) For the Colorado Desert fringe-toed lizard, “[p]rotecting sand dune habitat from the impact of off-highway vehicle use” is a key management strategy. (<i>Ibid.</i>) Implementing these management strategies will help minimize impacts to these lizards and need to be included in the MND. Creation of new roads in this area as part of the proposed Project is of concern because it could further fragment habitat and provide new access for off-highway vehicles. Additionally, the avoidance and minimization measures for desert tortoise may benefit these lizards, but additional analysis and avoidance measure need to be put in place to avoid lizard impacts.</p>	<p>lizard, however there is low potential for occurrence and no species individuals or sign was identified during the 2021 baseline surveys. Per the analysis in Section 3.23.3, the Proposed Action would temporarily remove potential forage and habitat for reptile species that would be unavailable until successful completion of reclamation. Disturbance of habitat may impact individual species, but it is not anticipated to impact species populations; impacts to reptiles would be minor, short-term, and localized, and would be either avoided or mitigated to less than significant levels through the implementation of the measures described in Appendix F of the EA/MND. Additionally, there are no Aeolian sand transport corridors within or in the vicinity of the Project Area, therefore, per the assessment in the CMA table in Appendix B, LUPA-BIO-1 would not be required to be implemented under the Project.</p> <p>Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F, while there is a low potential for Flat-tailed horned lizard and Colorado fringe-toed lizard occurrence within the Project Area, should these lizard species be identified during pre-construction surveys, the appropriate CMA’s identified in the EA/MND, would be implemented in addition the PDFs and mitigation measures already prescribed within Appendix F of the EA/MND. Therefore, through the implementation of the pre-construction surveys and CMA’s approved by the BLM, the Project would have less than significant impacts to Flat-tailed horned lizard and Colorado fringe-toed lizard, with no additional mitigation required.</p>
29.0	29.7	Center for Biological Diversity	<p>2. Golden Eagles</p> <p>As per our comments on the EA, it is imperative that the County conduct golden eagle nest surveys and discuss compliance with all the federal and state requirements for eagles in detail.</p>	<p>See response to Comment #23.17 above. Golden eagle nest ground surveys were conducted in March 2021 in accordance with the USFWS recommended golden eagle nest survey protocols. Section 3.23.2 of the EA/MND has been revised to clarify that golden eagle nesting surveys were completed and the results of such noted that golden eagles were not present within the raptor analysis area (two-mile buffer around the Project Area). Per the Biological Resource Technical Report and Assessment (WestLand 2021), the raptor analysis area occurs within the known range of golden eagles; however, no historical records for the species occurs within the analysis area and no evidence of golden eagles or golden eagle nesting was observed during the baseline surveys. Additionally, no golden eagle nests are known to occur within 4.4 miles of the analysis area per Diamond et al.’s 2016 species status and distribution model for golden eagles (Westland 2021). As such, golden eagle take, including loss of productivity, would not occur under the Proposed Action and there would be no impacts.</p> <p>Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior</p>

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				to surface disturbing activities under the Project in order to identify present of wildlife species and determine whether a change in drill siting must occur and/or additional impact minimization or avoidance measures may be necessary, which would be coordinated directly with the BLM.
29.0	29.8	Center for Biological Diversity	<p>3. <i>Le Conte's Thrasher</i></p> <p>The California Natural Diversity Database (2023) documents that the Le Conte's thrasher (<i>Toxostoma lecontei</i>), a California Species of Special Concern, is present in the general proposed project area. These very shy, non-migratory birds are easily disturbed and known to be "[o]ften exceptionally wary of humans; vulnerable to off-road vehicle activity, other disturbance, and removal of shrubs for agricultural or other development." (CDFW 2005). These birds have been known to be declining for years. (CDFW 2005). The MND must include the results of targeted surveys for Le Conte's thrasher. Based on the outcome of the surveys the MND must be updated to include the outcome of the surveys and the analysis of impacts from the proposed action.</p>	<p>As discussed under Comment #26.1 and #28.6 above, biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Le Conte's Thrasher was not observed onsite during the baseline surveys, and WestLand determined that this species has a "low potential of occurrence" to occur within the Project Area.</p> <p>Additionally, as discussed previously, extensive pre-construction surveys will be conducted on and adjacent to the Project site by a qualified BLM-approved biologist, prior to any new disturbance. These pre-disturbance surveys will ensure that any wildlife species that may have migrated into the Project area following completion of the baseline surveys, including Le Conte's Thrasher, will be properly avoided and/or effects properly mitigated to less than significant levels in accordance with State and Federal law.</p>
29.0	29.9	Center for Biological Diversity	<p>4. <i>Desert Bighorn Sheep</i></p> <p>Desert bighorn sheep (see map below) historically occupied the Cargo Muchacho Mountains. California Department of Fish and Wildlife is repatriating desert bighorn to various ranges throughout their historic range. While the Cargo Muchachos are not currently being repatriated, the impact to habitat from the exploratory drilling must be analyzed in the context of impacts to future desert bighorn repatriation. Desert bighorn are a "fully protected" species under California law.</p>	<p>See response to Comment #21.6 above. Biological baseline surveys were conducted in March 2021 to ascertain the most current presence of wildlife species in the area of analysis. The baseline data collected was used to analyze impacts to present or potentially present wildlife species as a result of the Proposed Action. Bighorn sheep were not observed during the baseline surveys in the survey area and additional literature and information from recent surveys and the California Natural Diversity Database were reviewed to support the conclusions made in the baseline report. Pre-construction surveys would be conducted prior to surface disturbance under the Proposed Action per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND. Should bighorn sheep or other additional wildlife species not previously present be observed, SMP would coordinate additional avoidance or mitigation measures with the BLM as necessary.</p>

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			 <p>Map of Desert Bighorn Sheep habitat. – CDFW</p>	
29.0	29.10	Center for Biological Diversity	<p>5. Bats</p> <p>While three bat species were identified definitively in the EA/MND and an additional species was speculated, the California Natural Diversity Database (2023) has one record of the western mastiff bat (<i>Eumops perotis californicus</i>) occurring in the general area of the proposed project. All these bat species are State Species of Special Concern. These findings collectively also indicate a high level of diversity of bats in the localized area. Additional surveys need to be conducted during the appropriate time of year to evaluate the presence of important roosting sites, including maternity roosts for these species that have that life history requirement, and provide an analysis of potential impacts to these species from the proposed project.</p>	<p>See Comments #21.1 through Comment #21.7, and Comment #28.13 above.</p> <p>The PDF-11 would require SMP to implement a 500-foot avoidance buffer for surface drilling around features with evidence of use by sensitive bat species in compliance with Volume IV Section 7 Biological Resources in the DRECP Final EIS (BLM 2015) for implementing an avoidance setback of 500 feet around known bat roosts. The EA/MND analyzes effects resulting from surface disturbance only. Underground exploration is not analyzed in the EA/MND as it is not subject to permitting under the 43 CFR 3809 Surface Management regulations, nor SMARA, and is therefore not under the decision-making realm of the BLM or County, respectively, as it pertains to the proposed Project.</p> <p>The proponent has also voluntarily conducted LiDAR mapping of the historic Oro Cruz Mine underground workings to inform the underground exploration activities. The proponent would use all best available LiDAR data to make the best effort to avoid drilling through voids in underground workings. Drill siting to avoid known voids in the underground workings is also in the best interest of the proponent as drills would be sited based on locations where a constant circulation of fluids to lubricate the drill rig and bring samples to the surface is possible, as lost circulation of the fluids would result in a lost drill hole at the depth at which an open cavity is encountered, should the drill rig go through a void, such as an area with an open underground mine working. Surface drilling would not intersect with underground workings due to not only technical</p>

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				<p>infeasibility, but also economic infeasibility given the potential loss of productivity of a drill site if it were to be sited in an area that would potentially intersect with an underground mine working. Per PDF-11 (described in Appendix F of the EA/MND) to implement a 500-foot avoidance buffer during the bat maternity season (April 1 through August 31) for surface drilling around features with evidence of use by BLM sensitive bat species, the proponent would utilize data provided by the BLM with locations of known abandoned mine sites that host populations of BLM sensitive bat species to implement the buffer and to inform surface drill siting.</p> <p>Further, although not included as a mitigation measure, shielded lights on drilling equipment is a standard equipment feature that would be used during nighttime drilling to limit visual impacts from night lighting in the Project Area. Although some of the known bat species with potential to be present within the Project Area do not depend on “hawking” insects from the air and therefore would likely not be drawn to insect population that may be attracted to nighttime drill lighting, there is a potential for some foraging bat species to be present that do rely on “hawking” insects rather than foraging from the ground and/or vegetation; therefore, the creation of a source of light that would attract insects and thus some species of foraging bats is was disclosed as a potential impact within the EA/MND.</p> <p>Therefore, per the PDFs, CMAs, and BLM required mitigation measures included in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities in order to identify presence of both wildlife, including bat species, and vegetation species that may require coordinated avoidance with the BLM. Through the implementation of the measures outlined above, potential impacts to bat species would be less than significant.</p>
29.0	29.11	Center for Biological Diversity	<p>6. Rare Plants</p> <p>According to the California Natural Diversity Data base (2023), two additional rare plants have been documented in the general area of the proposed project area. These include the pink fairy-duster (<i>Calliandra eriophylla</i>) CRPR 2.3, which is not analyzed despite the EA/MND’s acknowledgment that it has a “high likelihood” of occurrence, and the glandular ditaxis (<i>Ditaxis claryana</i>) CRPR 2.2, which also is not analyzed despite the EA/MND’s acknowledgment that it may occur on site. (EA/MND at 302.) These species, in addition to the plants analyzed in the EA/MND, are tracked by the State of California because of their rarity/threats. As such, the MND is inadequate because it failed to target these species in the appropriately timed botanical surveys and failed to provide a full floral inventory of the species identified on site. Absent adequate surveys, the EA/MND lacks</p>	<p>See response to Comment #23.20 above.</p> <p>Biological baseline surveys, including vegetation surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Per the impact analysis in Section 3.20.3 and the reclamation measures that would be conducted on all disturbed surfaces, long-term impacts from habitat removal would be reduced. Per the PDFs, CMAs, and BLM required mitigation measures outlined in Appendix F of the EA/MND, pre-construction surveys would be conducted prior to surface disturbing activities under the Proposed Action and any further impact minimization or avoidance measures would be coordinated with the BLM as</p>

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			evidence showing that the Project will not impact these rare plants. Since evidence exists supporting a fair argument that there may be an impact, the County must prepare an EIR.	necessary and appropriate based on the findings of the surveys. Furthermore, should special status plants, including rare listed within the California Natural Diversity Data base, be identified during pre-construction surveys, barrier fencing would be required to be implemented around individual plants to ensure potential impacts to special status species remain less than significant.
29.0	29.12	Center for Biological Diversity	<p>7. Rare Plant Communities</p> <p>The EA/MND identifies the Blue Palo Verde-Ironwood Alliance (also identified by its scientific name <i>Parkinsonia florida—Olneya tesota</i> alliance) as microphyll woodlands existing on-site. (EA/MND at 78.) Microphyll woodlands are very important habitat for migratory bird species as well as desert tortoise. (Audubon 2019; Luckenbach 1972.) It is also a sensitive plant community identified by the State of California. (EA/MND at 78.) The EA/MND mapped microphyll woodlands to cover 2 percent of the proposed project area, but the Conservation Biology Institute mapping – which was contracted by federal and state agencies for the Desert Renewable Energy Conservation Plan (DRECP) – mapped a much greater extent of microphyll woodlands than the MND identifies. (Data basin 2014.) A site-specific mapping of the microphyll woodlands (aka Blue Palo Verde- Ironwood Alliance or <i>Parkinsonia florida—Olneya tesota</i> alliance) must be done. Since evidence exists supporting a fair argument that there may be an impact to the microphyll woodlands identified in the DRECP, the County must prepare an EIR.</p>	<p>Biological baseline surveys, including vegetation and rare plant community surveys, were conducted in March 2021, as described in Section 3.20.2 of the EA/MND. An analysis of the microphyll woodlands was completed during biological baseline surveys and is included in Appendix E of the EA/MND. Additionally, Figure 3-8 of the EA/MND has been revised to visual the desktop delineated vegetation communities, which includes areas where limited microphyll woodlands are present. The timing of baseline surveys was coordinated with the BLM and the baseline report was deemed complete and approved in June 2021. Impacts to vegetation were analyzed accordingly based on baseline conditions under Sections 3.20.3, 3.20.5, and 3.20.6 in the EA/MND.</p> <p>Please refer to response to Comments #26.1, #26.3 and #28.10 above. While plant species observed in the field during the March 2021 biological baseline surveys make up a representative sample of plant species expected to occur within the Project Area, the observed species do not necessarily represent a complete floristic inventory as it is representative of the species that were identified during the surveys and may not be representative of species that are present year-round. Therefore, to ensure all potential plant communities are properly identified and potential impacts remain less than significant, the text of the BLM required mitigation measures in Table F-3 of Appendix F of the EA/MND, M-8 and PDF-34 has been clarified to state the pre-construction surveys conducted prior to surface disturbance would include vegetation surveys to ensure that no special status plants are present within areas proposed for disturbance. Appropriate biological mitigation and avoidance measures would be coordinated with the BLM should special status plants be identified during Project implementation. Please note that per Appendix B and Table F-2 of Appendix F of the EA/MND, LUPA-BIO-2 would not be required for implementation under the Proposed Action as required pre-construction surveys and continued monitoring would take place during all phases of the Proposed Action by a BLM Authorized Biologist. Through the implementation of the measures outlined above, potential impacts to rare plant communities would be less than significant.</p>
29.0	29.13	Center for Biological Diversity	III. The EA/MND Fails to Adequately Analyze, Disclose, and Mitigate the Project’s Significant Adverse Air Quality Impacts.	<p>See response to Comment #23.30 above.</p> <p>As stated in Section 3.3.5, the Project would comply with the ICAPCD Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which</p>

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			<p>The EA/MND's evaluation of the Project's air quality impacts is flawed. It fails to disclose and study the Project's full suite of air quality impacts and fails to adopt all feasible mitigation measures to mitigate those impacts. (See EA/MND Sec. 3.3.5.) The County must require an EIR to adequately analyze the Project's air quality impacts, acknowledge their significance, and consider and adopt feasible mitigation to reduce those impacts.</p>	<p>prescribe measures for the management of windblown dust. Additionally, consistent with ICAPCD Rule 801, SMP would develop a site-specific Operation Dust Control Plan, which would be submitted to the ICAPCD, and consistent with Rule 801 requirements, approval would be obtained a minimum of 10 days prior to the first ground disturbing activities as a result of the Project. The Operation Dust Control Plan would also be subject to approval by the BLM.</p> <p>Further, the Project's potential air emissions, including fugitive dust, were quantified and compared to the appropriate annual and daily CEQA emissions thresholds promulgated by the ICAPCD. As shown in Table 3-6 and 3-7 within the EA/MND, the Project's unmitigated air emissions were found to be below applicable ICAPCD construction and operations thresholds pursuant to CEQA. It's also important to note that these emissions estimates did not take into account standard emissions/dust controls or other regulatory programs that the Project would implement. Specifically, as stated in Section 3.3.3 and 3.3.5 in the EA/MND, the emissions estimates presented in Table 3-6 and Table 3-7 did not account for the implementation of standard mitigation measures for construction combustion equipment from the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017), and therefore represented a conservative overestimate of Project impacts. As such, potential air quality impacts associated with the Project would be less than significant, with no mitigation measures required.</p>
29.0	29.14	Center for Biological Diversity	<p>A. This Project would add extractive development to a region already suffering from poor air quality.</p> <p>Air quality is a significant environmental and public health concern in California. Unhealthy, polluted air contributes to and exacerbates many diseases and increases mortality rates. The U.S. government estimates that between 10-12 percent of total health costs can be attributed to air pollution. (VCAPCD 2003.) Many plants and trees, including agricultural crops, are also injured by air pollutants. This damage ranges from decreases in productivity, a weakened ability to survive drought and pests, to direct mortality. (<i>Id.</i>) Terrestrial wildlife is also affected by air pollution as the plants and trees that constitute their habitats are weakened or killed. Aquatic species and habitats are also affected by air pollution through the formation of acid rain that raises the pH level in oceans, rivers and lakes. Greenhouse gases, such as the air pollutant carbon dioxide which is released by fossil fuel combustion, contribute directly to human-induced climate change (EPA 2016), and in a positive feedback loop, poor air quality that contributes to climate change will in turn worsen the impacts of climate change and attendant air pollution. (BAAQMD 2016.)</p> <p>According to the American Lung Association's 2022 "State of the Air" report, Imperial County has a "Fail" grade for both year-round ozone and particulate matter pollution,</p>	<p>See responses to Comments #23.30 and #29.4 above.</p> <p>As stated in Section 3.3.5, the Project would comply with the ICAPCD Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which prescribe measures for the management of windblown dust. Additionally, consistent with ICAPCD Rule 801, SMP would develop a site-specific Operation Dust Control Plan, which would be submitted to the ICAPCD, and consistent with Rule 801 requirements, approval would be obtained a minimum of 10 days prior to the first ground disturbing activities as a result of the Project. The Operation Dust Control Plan would also be subject to approval by the BLM.</p> <p>Further, the Project's potential air emissions, including fugitive dust, were quantified and compared to the appropriate annual and daily CEQA emissions thresholds promulgated by the ICAPCD. As shown in Table 3-6 and 3-7 within the EA/MND, the Project's unmitigated air emissions were found to be below applicable construction and operations thresholds pursuant to CEQA. It's also important to note that these emissions estimates did not take into account standard emissions/dust controls or other regulatory programs that the Project would implement. Specifically, as stated in Section 3.3.3 and 3.3.5 in the EA/MND, the</p>

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			<p>under both the 24-hour and annual metrics. (<i>Id.</i>) Ozone (commonly referred to as smog) is created by the atmospheric mixing of gases from fossil fuel combustion and other volatile organic compounds and sunlight. Although it is invisible, ozone poses one of the greatest health risks, prompting the EPA to strengthen its National Ambient Air Quality Standard for Ozone in 2015. (ALA 2022.) PM2.5 is a common component of vehicle exhaust emissions and contributes to visible air pollution. These tiny particulates are dangerous because they are small enough to escape our body’s natural defenses and enter the blood stream.</p> <p>Fugitive dust is the term used to describe the fine particulate matter – PM2.5 and PM10 – that results from ground disturbance, such as construction, road-building operations, or mining. Fugitive dust can impede breathing and cause respiratory irritation, cough, airway obstruction and poor lung function. (Blodgett 2004.) Chronic or long-term exposure can lead to lung inflammation, bronchitis and emphysema and produce a severe lung disease known as silicosis, a form of pulmonary fibrosis. (Hnizdo 2003.) Fugitive dust emissions would result from project operations. (EA/MND at Sec. 3.3.3.)</p>	<p>emissions estimates presented in Table 3-6 and Table 3-7 did not account for the implementation of standard mitigation measures for construction combustion equipment from the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017), and therefore represented a conservative overestimate of Project impacts. As such, potential air quality impacts associated with the Project would be less than significant, with no mitigation measures required.</p>
29.0	29.15	Center for Biological Diversity	<p>B. By Excluding Stationary Source Emissions, the Project Improperly Underestimates the project’s Air Quality Emissions</p> <p>Although the EA/MND purports to evaluate whether the Project would emit criteria pollutants for which the region is in nonattainment status, it fails to analyze the Project’s total emissions. (EA/MND at Sec. 3.3.5(b).) The EA/MND’s air quality analysis inexplicably omits the Project’s stationary source emissions and concludes, based on mobile sources alone, that the Project will have less-than-significant impacts. (<i>Ibid.</i>)</p> <p>The EA/MND does not define what is included under the umbrella term “stationary source.” It appears to refer to the Imperial County Air Pollution Control District (ICAPCD) rules, which define stationary source to encompass “any building, structure, facility, Equipment, or Emissions Unit which emits or may emit any Affected Pollutant directly or as a Fugitive Emission.” (ICAPCD Rule 207.) The County’s definition appear to include the wide-range of on-site activities, including the drill rigs, generators, and construction. Even comparing the emissions calculations in Appendix E to the disclosed mobile source emissions in EA/MND Section 3.3.5(b), “stationary sources” appear to be the main driver of the Project’s air quality impacts. (See Appendix E.) When the Project’s total emissions are calculated, they well exceed the County’s thresholds of significance. Yet nowhere does the EA/MND analyze or make a significance finding for total Project emissions. This obscures the Project’s true impacts.</p> <p>The EA/MND also claims that it need not consider stationary source emissions because the County’s threshold of significance is designed to only evaluate mobile sources.</p>	<p>As described within the ICAPCD’s CEQA Air Quality Handbook (ICAPCD, 2017), the thresholds of significance for project operations (Table 1) “<i>would not be used to determine significance for the air emissions associated with the stationary source, including off-road mobile emissions produced within the stationary source. Those stationary source emissions are already subject to mitigation according to Rule 207, New and Modified Stationary Source Review and Rule 201 and must therefore be excluded. However, the Lead Agency has the authority to request a comprehensive air quality analysis or an EIR to address the impact of the stationary source regardless of the threshold in table 1, according to CEQA guidelines.</i>”</p> <p>While this statement is consistent with County/ICAPCD CEQA guidance, and was therefore included in the EA/MND for context. Although ICAPCD CEQA guidance notes stationary sources may be omitted from a project-specific analysis, all Project emissions sources were quantified within EA/MND and the resulting emissions compared to the applicable ICAPCD CEQA thresholds to determine significance. Specifically, emissions from drill rigs, onsite generators, fuel storage tanks, etc, were quantified and conservatively included in the air quality analysis. No Project emissions sources were excluded from the analysis. Therefore, the Project emissions disclosed in the EA/MND represent a conservative over-estimation of Project impacts, which are less than significant.</p> <p>It’s also important to note that Imperial County only has discretionary authority over the Reclamation Plan and reclamation activities described therein pursuant</p>

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			<p>(EA/MND at 28.) Even if the Project’s mobile source emissions are less-than-significant under this threshold, a determination that an environmental impact complies with a particular threshold of significance does not relieve a lead agency of its obligation to consider evidence that indicates the impact may be significant despite compliance with the threshold. (CEQA Guidelines § 15064(b)(2).)</p> <p>The primary and overriding basis for the County's conclusion here was its assumption that the project’s CEQA analysis is limited to mobile sources only. But once that assumption is removed, the situation is entirely different. When the entire project is considered, the record reveals sufficient information and inferences to indicate a fair argument that significant environmental impacts may exist, requiring an EIR. (<i>Nelson v. County of Kern</i> (2010) 190 Cal. App. 4th 252, 283.)</p>	<p>to SMARA. As such, the “project” evaluated under CEQA, and the emissions by which ICAPCD thresholds would be applied, would be those activities specific to site reclamation. Nonetheless, Imperial County and the BLM opted to prepare a joint EA/MND document to ensure that the potential environmental effects of both mining/exploration activities as well as reclamation activities were fully evaluated under CEQA and NEPA.</p>
29.0	29.16	Center for Biological Diversity	<p>C. The EA/MND Fails to Analyze or Disclose the Project’s Fugitive Dust Emissions.</p> <p>Furthermore, nowhere does the EA/MND analyze the significance of the Project’s fugitive dust impacts. Fugitive dust is typically used to describe the fine particulate matter– PM2.5 and PM10. The EA/MND separately evaluates the Project’s PM2.5 and PM10 emissions, finding neither meet the respective thresholds of significance. In Appendix E, however, the EA/MND recognizes a third category of particulate matter, called “PM,” and estimates those emissions will reach up to 373.22 pounds per year, the vast majority of which will come from helicopter use and laydown yard emissions (220.93 and 147.97 pounds per year, respectively). This estimate well exceeds any threshold of significance for any criteria pollutant set by the County. Inexplicably, nowhere in the EA/MND’s air quality analysis is this impact disclosed or analyzed against a threshold of significance.</p> <p>The Project then attempts to dispel any concerns about fugitive dust by concluding that compliance with construction fugitive dust control measures will reduce any impacts to less- than-significant levels. (EA/MND at 29 “[T]hrough implementation of the ICAPCD’s standard construction fugitive dust controls and standard construction mitigation measures, the Project would not result in a cumulatively considerable net increase of any criteria pollutant...). Appendix E makes clear that the majority of fugitive dust emissions will come from project operations (helicopter use and laydown yard emissions), not construction. Mitigation to reduce construction impacts does not provide evidence that the Project’s overall fugitive dust will be reduced to less-than-significant levels. Therefore, a fair argument exists that the Project may have a significant effect on the environment necessitating the preparation of an EIR.</p>	<p>See response to Comment #23.30 and #29.4 above.</p> <p>As stated in Section 3.3.5, the Project would specifically comply with the ICAPCD Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which prescribe measures for the management of windblown dust. Additionally, consistent with ICAPCD Rule 801, SMP would develop a site-specific Operation Dust Control Plan, which would be submitted to the ICAPCD, and consistent with Rule 801 requirements, approval would be obtained a minimum of 10 days prior to the first ground disturbing activities as a result of the Project. The Operation Dust Control Plan would also be subject to approval by the BLM.</p> <p>The emissions inventory summary provided in Appendix E provides an overview of the final calculations of potential emissions resulting from the Proposed Action. As included in Table 3-4 of the EA/MND, potential annual emissions associated with the Proposed Action were compared against the EPA Significant Emission Rates for all analyzed pollutants in tons per year, as well as the Federal Conformity <i>de minimis</i> thresholds. As stated in Section 3.3.3 of the EA/MND associated with Table 3-4, annual fugitive emissions for PM (30.36 tons per year estimated) would exceed the EPA significance emission rate of 25 tons per year under the maximum scenario that was run for construction and operations occurring simultaneously. The highest emissions under the Project would result from exploratory drilling and laydown yard activities, which would occur simultaneously for approximately four to six months during the first year of the two-year Project operations. After Project start-up, activities would occur more dispersed over time due to the intermittent nature of exploratory drilling. Therefore, the estimated annual emissions would not reach the maximum emissions shown in Table 3-4 of the EA/MND as all phases of the Project would not be operating simultaneously each year, leading to much lower overall</p>

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				<p>emissions that would not exceed any federal thresholds. This clarifying text has been included in Section 3.3.3 of the Revised EA/MND.</p> <p>Further, the Project’s potential air emissions, including fugitive dust, were quantified and compared to the appropriate daily CEQA emissions thresholds promulgated by the ICAPCD. As shown in Table 3-6 and 3-7 within the EA/MND, the Project’s unmitigated daily air emissions, including fugitive dust, were found to be below applicable construction and operations thresholds pursuant to CEQA. It’s also important to note that these emissions estimates did not take into account standard emissions/dust controls or other regulatory programs that the Project would implement. Specifically, as stated in Section 3.3.3 and 3.3.5 in the EA/MND, the emissions estimates presented in Table 3-6 and Table 3-7 did not account for the implementation of standard mitigation measures for construction combustion equipment from the ICAPCD CEQA Air Quality Handbook (ICAPCD 2017), and therefore represented a conservative overestimate of Project impacts. As such, the Project’s potential fugitive dust emissions would be less than significant, with no mitigation measures required.</p>
29.0	29.17	Center for Biological Diversity	<p>D. The EA/MND’s Few Air Quality Mitigation Measures Are Unenforceable and Deferred.</p> <p>Generally, mitigation measures should not be deferred, and feasibility findings should not be delegated to staff. (CEQA Guidelines, §§ 15126.4(a)(1)(B), 15025(b)(2).) Specific details of a mitigation measure “may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will [be] considered, analyzed, and potentially incorporated in the mitigation measure.” (<i>Golden Door Properties v. County of San Diego</i> (2020) 50 Cal.App.5th 467, 518.) The EA/MND fails to meet these requirements.</p> <p>The EA/MND notes that the Project Applicant will comply with ICAPCD Regulation VIII – Fugitive Dust Rules to develop and implement—at a later date and outside of the public process – a dust control plan to address fugitive dust. (EA/MND at Sec. 3.3.5(b).) The lead agency is expected to develop mitigation in an open public process. (<i>Communities for a Better Environment v. City of Richmond</i> (2010) 184 Cal.App.4th 70, 93.) The EA/MND offers no reason why a dust control plan cannot be developed as part of the Project’s environmental review, nor does it include objective standards to guide the County’s approval of the plan. As written, the measure creates an enormous loophole and allows the Project applicant and the County to determine—at a later date, without oversight or objective standards, and without supporting its decision with substantial evidence—</p>	<p>As discussed above, the Project’s potential air emissions, including fugitive dust, were quantified and compared to the appropriate daily CEQA emissions thresholds promulgated by the ICAPCD. As shown in Table 3-6 and 3-7 within the EA/MND, the Project’s unmitigated daily air emissions were found to be below applicable construction and operations thresholds pursuant to CEQA. Because fugitive dust impacts were found to be less than significant, mitigation measures were not required. Nonetheless, SMP would comply with all applicable ICAPCD rules and regulations that related to fugitive dust controls, including preparation of a site-specific dust control plan, which would further ensure potential air quality impacts remain less than significant.</p> <p>As discussed above, it’s also important to note that the emissions estimates presented in the EA/MND conservatively did not take into account the standard emissions/dust controls or other regulatory programs that the Project would implement, such as any future measures outlined within a dust control plan. As such, even though the fugitive dust emissions disclosed in the EA/MND represent a conservative overestimate which do not account for potential reductions realized through compliance with applicable ICAPCD rules, impacts were found to be less than significant/below applicable CEQA thresholds with no additional mitigation required.</p>

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			whether mitigation will be implemented. It is entirely inappropriate to defer analysis of fugitive dust mitigation until after Project approval, especially since formulating a plan appears to be entirely feasible.	
29.0	29.18	Center For Biological Diversity	<p>IV. The EA/MND Failed to Properly Analyze or Adequately Mitigate Greenhouse Gas Emissions.</p> <p>A. Climate Change is a Catastrophic and Pressing Threat to California.</p> <p>A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and that climate change threats are becoming increasingly dangerous. The Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change, concluded in its 2014 Fifth Assessment Report that: “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen,” and further that “[r]ecent climate changes have had widespread impacts on human and natural systems.” (IPCC 2014.) These findings were echoed in the United States’ own 2014 Third National Climate Assessment and 2017 Climate Science Special Report, prepared by scientific experts and reviewed by the National Academy of Sciences and multiple federal agencies. The Third National Climate Assessment concluded that “[m]ultiple lines of independent evidence confirm that human activities are the primary cause of the global warming of the past 50 years” and “[i]mpacts related to climate change are already evident in many regions and are expected to become increasingly disruptive across the nation throughout this century and beyond.” (Melillo 2014.)</p> <p>Immediate and aggressive greenhouse gas emissions reductions are necessary to keep warming well below 2°C above pre-industrial levels. The IPCC Fifth Assessment Report and other expert assessments have established global carbon budgets, or the total amount of carbon that can be burned while maintaining some probability of staying below a given temperature target. According to the IPCC, total cumulative anthropogenic emissions of CO₂ must remain below about 1,000 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 2°C above pre-industrial levels, and to 400 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 1.5°C. (IPCC 2014 at 63-64 & Table 2.) These carbon budgets have been reduced to 850 GtCO₂ and 240 GtCO₂, respectively, from 2015 onward. (Rogelj 2016 at Table 2.) As of 2022, climate policies by the world’s countries would lead to an estimated 2.7°C of warming, and possibly up to 3.6°C of warming, well above the level needed to avoid the worst dangers of climate change. (Climate Action Tracker 2022.)</p>	<p>Thank you for your comment. The Project’s GHG emissions were quantified and disclosed within Section 3.6 of the EA/MND. In lieu of specific and applicable guidance from Imperial County, estimated Project GHG emissions were compared to applicable numeric thresholds published by the SCAQMD. Note that due to the lack of specific guidance and appropriate numeric thresholds, GHG emissions were quantified for the Project primarily for disclosure purposes in relation to CEQA analysis (i.e., 3,021 metric tons of CO_{2e} per year). Nonetheless, as shown in Table 3-10 within the EA/MND, the Project’s GHG emissions are well below the applicable SCAQMD threshold for industrial projects.</p> <p>Furthermore, as discussed in Section 3.6.5. California’s current Scoping Plan, which is the State’s blueprint for how GHG reductions will be achieved, generally recognized that consumers of electricity and transportation fuels, such as SMP, are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other statewide programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each such sector-wide program exists within the framework of AB 32 and its descendant laws, the purposes of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan. Therefore, while the Project would generate short-term (i.e., over 12- to 24-months) GHG emissions due to combustion of transportation fuels, the GHG emissions associated with the Project’s fuel consumption would be regulated near the top of the supply-chain as transportation fuel suppliers and importers are required to report emissions under the Cap-and-Trade which is designed to reduce GHG emissions as needed to achieve emissions reductions described in related planning documents which primarily consists of the AB 32 Scoping Plan. As such, each citizen of California (including SMP) must necessarily purchase fuels produced in a way that is acceptable to the California market, and the Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change because the applicant is purchasing energy from the California market. Thus, the Project would also be consistent with the relevant state-wide GHG reduction plan (i.e., AB 32 Scoping Plan). Please refer to the revised Section 3.6.5 of the EA/MND for additional detail. Based on the above analysis and that contained within Section 3.6.5 of the EA/MND, potential GHG emissions associated with the proposed Project activities were found to be less than significant, with no mitigation required.</p>

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			<p>The United States has contributed more to climate change than any other country. The U.S. is the world’s biggest cumulative emitter of greenhouse gas pollution, responsible for 27 percent of cumulative global CO₂ emissions since 1850, and the U.S. is currently the world’s second highest emitter on an annual and per capita basis. (World Resources Institute 2020.) Nonetheless, U.S. climate policy is wholly inadequate to meet the international climate target to hold global average temperature rise to well below 2°C above pre-industrial levels to avoid the worst dangers of climate change. Current U.S. climate policy has been ranked as “critically insufficient” by an international team of climate policy experts and climate scientists which concluded: “These steps represent a severe backwards move and an abrogation of the United States’ responsibility as the world’s second largest emitter at a time when more, not less, commitment is needed from all governments to avert the worst impacts of climate change.” (Climate Action Tracker 2022.)</p> <p>In its 2018 <i>Special Report on Global Warming of 1.5°C</i>, the IPCC—the leading international scientific body for the assessment of climate change—described the devastating harms that would occur at 2°C warming. The report highlights the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth. (IPCC 2018.) The report also provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.</p> <p>In response to inadequate action on the national level, California has taken steps through legislation and regulation to fight climate change and reduce statewide GHG emissions. Enforcement and compliance with these steps are essential to help stabilize the climate and avoid catastrophic impacts to our environment. California has a mandate under AB 32 to reach 1990 levels of GHG emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code, § 38550.)</p> <p>Based on the warning of the Intergovernmental panel on Climate Change and leading climate scientists, Governor Brown issued an executive order in April 2015 requiring GHG emission reduction 40 percent below 1990 levels by 2030. (Executive Order B-30-15 (2015).) The Executive Order is in line with a previous Executive Order mandating the state reduce emission levels to 80 percent below 1990 levels by 2050 in order to minimize significant climate change impacts. (Executive Order S-3-05 (2005).) In enacting SB 375, the state has also recognized the critical role that land use planning plays in achieving greenhouse gas emission reductions in California.</p> <p>The state Legislature has found that failure to achieve greenhouse gas reduction would be “detrimental” to the state’s economy. (Health & Saf. Code § 38501(b).) In his 2015</p>	

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			<p>Inaugural Address, Governor Brown reiterated his commitment to reduce greenhouse gas emissions with three new goals for the next fifteen years:</p> <ul style="list-style-type: none"> • Increase electricity derived from renewable sources to 50 percent; • Reduce today’s petroleum use in cars and trucks by 50 percent; • Double the efficiency of existing buildings and make heating fuels cleaner. (Brown 2015 Address.) <p>Although some sources of GHG emissions may seem insignificant, climate change is a problem with cumulative impacts and effects. (<i>Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.</i>, (9th Cir. 2008) 538 F.3d 1172, 1217 (“the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis” that agencies must conduct).) One source or one small project may not appear to have a significant effect on climate change, but the combined impacts of many sources can drastically damage California’s climate as a whole. Therefore, project-specific GHG emission disclosure, analysis and mitigation is vital to California meeting its climate goals and maintaining our climate.</p> <p>The impacts of climate change are already being felt by humans and wildlife. Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people. (IPCC 2022.) This rise in weather and climate extremes has led to some irreversible impacts, as natural and human systems are pushed beyond their ability to adapt. (IPCC 2022.)</p> <p>In the IPCC’s most recent report, entitled <i>Climate Change 2022: Impacts, Adaptation and Vulnerability</i>, it found that warming is proceeding even faster than anticipated, and the best-case scenario for climate change is slipping out of reach. (IPCC 2022.) The report now estimates that, over the next 20 years, the world will cross the global warming threshold of 1.5°C. And unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to close to 1.5°C—or even 2°C—will be beyond reach. The United Nations Secretary General described the forecasts in this report as an “atlas of human suffering.” (Borenstein 2022.)</p> <p>Given the increasingly urgent need for drastic action to reduce GHG emissions, the EA/MND’s decision to give short shrift to the Project’s significant climate change effects is all the more alarming.</p>	
29.0	29.19	Center for Biological Diversity	<p>B. The EA/MND Fails to Adequately Disclose the Project’s GHG Impacts.</p>	<p>See response to Comment #29.6 above. Similar to the Project’s criteria pollutant emissions, the GHG emissions presented in Table 3-1 of the EA/MND is inclusive of all Project sources, both mobile and stationary. Furthermore, the</p>

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			<p>A CEQA document “must present facts and analysis, not simply the bare conclusions or opinions of the agency.” (<i>Bay Area Citizens v. Association of Bay Area Governments</i> (2016) 248 Cal.App.4th 966, 977 (quoting <i>Californians for Alternatives to Toxics v. Calif. Dept. of Food and Agric.</i> (2005) 136 Cal.App.4th 1, 13). The discussion of impacts must provide sufficient information and analysis to allow the public to discern the basis for the agency’s impact findings. (<i>Sierra Club, supra</i>, 6 Cal. 5th at p. 513 [“There must be a disclosure of the ‘analytic route the... agency traveled from evidence to action.’”].) A “conclusory discussion” of a significant environmental impact makes a CEQA document “inadequate as an informational document” as a matter of law.” (<i>Id.</i> at 514.)</p> <p>A “conclusory discussion” of a significant environmental impact makes an EA/MND “inadequate as an informational document” as a matter of law. (<i>Sierra Club, supra</i>, 6 Cal.5th at p. 514.) An EIR must provide information regarding the project’s significant environmental impacts that is sufficient to allow decision-makers and the public to understand the environmental consequences of the project. (<i>Id.</i> at p. 520; <i>Laurel Heights Improvement Ass’n v Regents of Univ. of Cal.</i> (1988) 47 Cal.3d 376, 404; See CEQA Guidelines § 15151.) The document must include enough detail to enable the public “to understand and to consider meaningfully the issues raised by the proposed project.” (<i>Id.</i> at 516 (citation omitted).)</p> <p>The analysis of greenhouse gas impacts offers the public little information to understand Project activities that will generate GHG emissions. The EA/MND presents one table with the Project’s projected GHG emissions. (EA/MND at 28.) While the EA/MND expends dozens of pages identifying the global sources of GHG emissions, the EA/MND discloses only a single Project sources of emissions underlying these totals: fuel consumption. (<i>Ibid.</i>) The EA/MND fails to analyze and disclose the activities that would result in GHG emissions, primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. From the sole table provided, and without any basic explanation, the public and decisionmakers have no way to understand and independently evaluate the environmental consequences of the Project. (See EA/MND Sec. 3.6.5 and Appendix E at 224.)</p> <p>While EA/MND purports to provide additional detail in Appendix E, Appendix E merely breaks down greenhouse gas emissions into CO₂, CH₄, and N₂O, rather than detailing the actual sources of greenhouse gas emissions.² Such a conclusory discussion of the Project’s GHG impacts renders the EA/MND inadequate as an informational document.</p>	<p>emissions were calculated using conservative assumptions, and assumed that on- and off-site equipment and vehicles would operate at full capacity during the given operational year. See the tables presented in Appendix E which summarize the GHG emissions sources quantified, and the description of equipment and associated activity levels assumed as part of the GHG analysis in Section 2.1 of the EA/MND.</p>
29.0	29.20	Center for Biological Diversity	<p>C. By Excluding Stationary Source Emissions, the Project Underestimates the Project’s Greenhouse Gas Emissions.</p>	<p>See response to Comment #29.6 and #29.10 above. Similar to the Project’s criteria pollutant emissions, the GHG emissions presented in Table 3-10 of the EA/MND is inclusive of all Project sources, both mobile and stationary. The</p>

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			<p>One need look no further than the EA/MND's lack of disclosure for the activities underlying its greenhouse gas estimates to understand why CEQA requires such disclosure. The EA/MND fails to include GHG emissions from stationary sources and therefore underestimates the Project's impact on climate change. (Appendix E at 224.)</p> <p>The EA/MND estimates that the Project's greenhouse gas emissions will be 3,021 metric tons per year and summarily concludes that, based on SCAQMD's 10,000 metric ton threshold, that the Project will have less than significant climate impacts. (EA/MND at 28.) However, according to a footnote in Appendix E, this estimate too "does not include stationary source emissions." (Appendix E at 224.)</p> <p>The EA/MND provides no justification for omitting the greenhouse gas impacts generated by stationary sources which appear to comprise a large portion of the Project's activity. (Appendix E at 224.) Given the information gleaned from elsewhere in the EA/MND, however, there is ample evidence to suggest that the Project would have significant GHG impacts. This Project proposes to construct approximately two miles of road improvements for existing roads, approximately 6.2 miles of new and temporary 12-foot-wide exploration drilling access roads; eight helicopter landing pads; 65 drill pads; 1.8 miles of new permanent access roads; a staging area for access to the Project Area; and seven drill sites. (EA/MND at 5.) The Project would disturb 21 acres. (<i>Ibid.</i>) The Project proposes to utilize gasoline-powered helicopter equipment and rely primarily on diesel and gasoline (see sec 3.9.3) – an anthropogenic source of carbon – for energy generation. The Project identifies not a single project design feature or mitigation measures aimed to lessen these emissions.</p> <p>Consequently, because of the deficiencies of the impact analysis for the proposed Project, the EA/MND fails to adequately disclose and properly estimate the Project's GHG emissions. A fair argument exists to show the Project may have an impact on greenhouse gas emissions, and the County must prepare an EIR to disclose, analyze, and mitigate these impacts.</p>	<p>footnote within Appendix E was included in error and has been removed from the revised EA/MND that will be certified by the BLM and Imperial County. Furthermore, the emissions were calculated using conservative assumptions, and assumed that on- and off-site equipment and vehicles would operate at full capacity during the given operational year. See the tables presented in Appendix E which summarize the GHG emissions sources quantified, and the annual equipment activity levels assumed as part of the GHG analysis.</p>
29.0	29.21	Center for Biological Diversity	<p>D. The EA/MND Lacks Evidentiary Support that GHG Impacts Would Be Less-Than Significant.</p> <p>The document offers three reasons for why the Project's greenhouse gas emissions should not be considered a significant impact. Each of these reasons is unavailing.</p> <p>First, as discussed above, the EA/MND relies on a numerical estimate that excludes most of the GHG-generating activity associated with the Project.</p> <p>Second, the EA/MND relies on the fuel efficiency of vehicles established by California's 2017 Scoping Plan to suggest that the Project "does not have its own GHG emissions but</p>	<p>See responses to Comments #29.9 through #29.11 above.</p> <p>As discussed above, the GHG emissions presented in Table 3-10 of the EA/MND is inclusive of all Project sources, both mobile (e.g., trucks helicopters, etc.) and stationary, including drill rigs, generators and tanks. The footnote within Appendix E was included in error and has been removed from the Revised EA/MND. Furthermore, the emissions were calculated using conservative assumptions, and assumed that on- and off-site equipment and vehicles would operate at full capacity during the given operational year. See the tables presented in Appendix E which summarize the GHG emissions sources quantified, and the annual equipment activity levels assumed as part of the GHG analysis.</p>

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			<p>is simply a location in which GHG emissions are taking place.” (EA/MND at 28.) This argument ignores what CEQA is meant to do – namely, ensure that a lead agency fully evaluates, discloses, and mitigates wherever feasible a project’s significant environmental effects. (Pub. Res. Code, §§ 21000, <i>et seq.</i>) The EA/MND may consider what mitigation is within the County’s jurisdiction when analyzing feasible mitigation measures, but these statewide fuel standards do not absolve the EA/MND of CEQA’s requirement that it disclose and analyze all potentially significant impacts associated with a project.</p> <p>The GHG analysis here is similar to the one that failed in <i>Friends of Oroville v. City of Oroville</i> (2013) 219 Cal.App.4th 832, 842. In that case, the Court held that the City of Oroville had failed to assess the impact of a project’s greenhouse gas emission because it had improperly applied the threshold for determining the significance of project greenhouse gas emissions. (<i>Ibid.</i>) There, the EIR used the “Scoping Plan Measures” from the Assembly Bill 32 Scoping Plan to create a significance threshold. (<i>Id.</i> at 843.) However, it concluded that the certain measures need not be applied to the project because they were meant to be implemented at a state-wide level. (<i>Ibid.</i>) The court said that by choosing a framework that excluded consideration of fuel consumption, the EIR “ignore[ed] the elephant in the room,” since 68% of the Project’s GHG emissions came from these impacts. (<i>Ibid.</i>) By relying on an inapplicable state-wide plan to disclaim responsibility to fully analyze and disclose impacts, that analysis – and this one, too – are deficient. Plus, the 2017 Scoping Plan is no longer valid; the California Air Resources Board in 2022 issued a new Scoping Plan, which the EA/MND did not consider.</p> <p>The EA/MND’s third reason as to why the Project has no significant climate impact is the most illogical. The EA/MND concludes that, since climate change is a global problem, “no single project is large enough to impact climate change.” (EA/MND at 28.) Courts have rejected this “drop-in-the-bucket” approach to impact analysis. In <i>Kings County</i>, the court invalidated an EIR that concluded increased ozone impacts from the project would be insignificant because it would emit relatively minor amounts of precursor pollutants compared to the large volume already emitted by other sources in the county, (1990) 221 Cal.App.3d 692, 717-18. The <i>Kings County</i> court rightly stated, “The relevant question to be addressed... is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount should be considered significant in light of the serious nature of the ozone problems in this air basin. (<i>Id.</i> at 718.) Likewise, here, the EA/MND may not minimize the Project’s impacts by comparing them to a global problem. (CEQA Guidelines § 15064.4(b) [In determining the significance of a project's GHG emissions, the lead agency "should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change ... even if [such contribution] appears relatively small compared to statewide, national or global emissions."].)</p>	<p>Additionally, CARB’s Scoping Plan was discussed in response to CEQA Guidelines GHG Environmental Checklist Question VIII-b), as this is the State’s primary blueprint for how GHG reductions will be achieved. The Imperial County Regional Climate Action Plan (ICTC 2021) was also reviewed. Because the Project was found to be consistent with both the County’s and State’s primary GHG plans and policies, impacts were determined to be less than significant with no mitigation required. While it is true the Project would comply with all applicable statewide fuel standards, and that any local fuel providers would have to participate in the GHG Cap-and-Trade Program and other state-wide Programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.), this fact was not cited as mitigation measure nor a reason to defer disclosure of the Project’s potential GHG impacts. As noted above and within Section 3.6 of the EA/MND, the Project is estimated to emit in approximately 3,021 metric tons of CO_{2e} per year from combustion of gasoline/diesel fuels.</p> <p>Additionally, in the decade since SCAQMD adopted the Interim GHG Significance Threshold, specifically the 10,000 metric ton CO_{2e} threshold applied within the EA/MND, several new laws and executive orders were adopted that require additional reductions in years after 2020. Thus, as discussed in the most recent updates to the Scoping Plan, objectives of the Scoping Plan affect entire sectors of the economy and it no longer makes sense to evaluate GHG emissions on a project-level. Although the Project would generate approximately 3,021 metric tons of CO_{2e} per year from combustion of gasoline/diesel fuels, these fuels are regulated near the top of the supply-chain. As such, each citizen of California (including SMP) must necessarily purchase fuels produced in a way that is acceptable to the California market. Thus, Project GHG emissions would be consistent with the relevant AB 32 Scoping Plan, and the Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change because the applicant is purchasing energy from the California market. This concept is reflected in both the 2017 and subsequent 2022 Scoping Plans, which regulates fuels at a level in the supply chain above the Project, such that the Project has no choice but to use fuel energy in California that is already regulated. Nonetheless, GHG emissions impacts from implementing the Project were quantified at the Project-specific level for construction and operations as explained in Section 3.6.5 of the EA/MND. The impact analysis for the Project follows the approach certified by South Coast AQMD in the Final Negative Declaration for the Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project on December 12, 2014 (South Coast AQMD 2014). This approach considers the cumulative nature of the energy industry and</p>

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				recognizes that consumers of diesel fuel are in effect regulated by higher level emissions restrictions on the producers of these energy sources. Therefore, the Project's contribution to global climate change impacts would not be cumulatively considerable.
29.0	29.22	Center for Biological Diversity	<p>V. The EA/MND's Analysis of the Project's Energy Impacts is Incomplete and Inadequate.</p> <p>CEQA requires agencies to analyze whether their projects will result in wasteful or inefficient use of energy. (Pub. Res. Code, § 21100(b)(3); CEQA Guidelines § 15126.2(b) CEQA Guidelines Appendix F.) To demonstrate that a project will not result in the wasteful use of energy, agencies must show that the project has decreased per capita energy consumption, decreased reliance on fossil fuel use, and increased reliance on renewable energy sources. (<i>Cal. Clean Energy Com. v. City of Woodland</i> (2014) 225 Cal.App.4th 173, 209; Pub. Res. C §21100(b)(3); <i>see also People v. County of Kern</i> (1976) 62 Cal.App.3d 761, 774.)</p> <p>The entirety of fuel consumption resulting from this Project would be attributable to the burning of diesel, gasoline, and jet fuel – all fossil fuels. (EA/MND at 35.) The Project is expected to consume approximately 36,138 gallons of diesel fuel and 1,500 gallons of JetB fuel. (EA/MND at 36.) Despite the Project's massive fuel consumption, the EA/MND concludes that any impacts would be less than significant because this amount is "nominal" compared to the fuel consumed in the entirety of Imperial Country. (<i>Ibid.</i>)</p> <p>The EA/MND attempts to minimize the impact of the Project's fuel consumption by comparing it to the County's annual fuel consumption, which is 24.3 million gallons. (EA/MND at 35.) This is disingenuous. The more applicable statistic would be to compare annual fuel consumption to similarly sized mining exploration Projects, an analysis the EA/MND does not undertake.</p> <p>The EA/MND again argues that current fuel efficiency standards, in and of themselves, suggest that this Project should not be considered inefficient or wasteful. Yet this Project does nothing to facilitate increased fuel efficiency. Compliance with existing fuel efficiency standards alone – absent project-specific analysis—is not sufficient evidence to support a finding of no significant impact under the CEQA. (<i>Oro Fino Gold Mining Corp. v. County of El Dorado</i> (1990) 225 Cal. App. 3d 872, 881–882.) Otherwise, any projects burning fossil fuels – regardless of the amount – could claim an efficient use of energy.</p> <p>This reasoning also ignores what CEQA is meant to do – namely, ensure that a lead agency fully evaluates, discloses, and mitigates wherever feasible a project's significant</p>	<p>While it is true the CEQA Guidelines Energy Environmental Checklist Question VI-a) requires CEQA determine if a project would result the "wasteful, inefficient, or unnecessary consumption of energy resources", CEQA does not require that an individual project demonstrate it would decreased per capita energy consumption (this is simply listed in Appendix F of the CEQA Guidelines as a means of achieving the State's energy conservation goals).</p> <p>While it is true that the Project's primary source of energy would be fossil fuel consumption, due to the nature and remote location of the proposed Project operations, use of other energy sources would be infeasible, and potentially even more impactful (e.g., additional disturbance for access to other energy sources would require additional disturbance, etc.). However, the Project has been designed to minimize wasteful energy consumption, and ensure onsite operations remain as efficient as possible. For example, the use of helicopters in lieu of more convention trucks and vehicles was proposed as this would significantly reduce both the total length of new roadways that would need to be graded using heavy-equipment during construction, as well as the total distance travelled by during operations to access the drill sites. Ultimately, the consumption of fossil fuel energy alone is not a reason to determine an individual project would result in a significant energy impact.</p> <p>The commenter notes the Project's total fuel consumption should have been compared to a similarly sized exploration Project. Gold mining operations, and even more so smaller exploratory projects, are exceedingly rare in California. Nonetheless, as described above, the Project has been designed to minimize environmental impacts and energy consumption to the extent feasible. For example, Cahuilla Exploratory Gold Project Phase III, for the which Imperial County was also intended to serve as the CEQA lead agency (see https://ceqanet.opr.ca.gov/2015061088), would cover approximately 214 acres total, and drill up to 2,000 total exploratory boreholes. By comparison, SMP's proposed Project would disturb up to 20.54 acres total and drill up to 65 proposed drill holes. As such, the Project's total energy consumption is expected to be comparatively far less than analogous exploratory drilling projects in the region.</p>

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			<p>environmental effects. (Pub. Res. Code, §§ 21000, <i>et seq.</i>) The EA/MND may consider what mitigation is within the County’s jurisdiction when analyzing feasible mitigation measures, but these statewide standards do not absolve the EA/MND of CEQA’s requirement that it disclose and analyze all potentially significant impacts associated with a project. Significance thresholds must not foreclose consideration of any potentially significant environmental effect, or the CEQA analysis is deficient. (<i>Protect the Historic Amador Waterways v. Amador Water Agency</i> (2004) 116 Cal.App.4th 1099, 1109 [“A threshold of significance cannot be applied in a way that would foreclose the consideration of other substantial evidence tending to show the environmental effect to which the threshold relates might be significant.”].)</p> <p>Finally, the EA/MND ignores the requirements of Appendix F of CEQA. Neither the EA/MND nor any of the technical appendices provide any information on how this Project seeks to decrease overall energy use or its reliance on fossil fuels; instead, the Project relies exclusively on fossil fuels. This misses the clear legislative intent driving an energy analysis – to reduce fossil fuel use and maximize energy efficiency.</p>	
29.0	29.23	Center for Biological Diversity	<p>VI. The EA/MND Fails to Adequately Analyze the Project’s Impacts on Water Supplies.</p> <p>California faces unprecedented challenges in its effort to allocate and conserve limited water resources, especially as water supply dwindles in the face of climate change and population growth. The Project would further exacerbate regional and statewide supply by constructing new roads and engaging in mining exploration activities that, absent an identified water source, threatens to overdraft local groundwater supply. In light of these, and other, underlying concerns, the EA/MND’s analysis of the Project’s water supply fails to adequately consider all potential significant impacts.</p> <p>The Project anticipates using up to approximately 2,000 gallons of water daily for active drilling periods. (EA/MND at 97.) The EA/MND surmises that water would be procured from Gold Rock Ranch “and/or” a local water purveyor. (<i>Ibid.</i>) On these facts alone, the EA/MND concludes there is adequate water supply available to meet the needs of the Project and finds a less than significant impact related to water supply. (EA/MND at 66.)</p> <p>CEQA requires that an analysis present decisionmakers “with sufficient facts to evaluate the pros and cons of supplying the amount of water that the [project] will need.” (<i>Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova</i> (2007) 40 Cal.4th 412, 430-31.) This includes identifying and analyzing water supplies that “bear a likelihood of actually proving available; speculative sources and unrealistic allocations (‘paper water’) are insufficient bases for decision-making under CEQA.” (<i>Id.</i> at 42.)</p>	<p>See responses to Comments #10.1, #12.1, #23.5, #23.22, #23.28, #23.30, and #28.4 above which relate to the Project water supply.</p> <p>The Proposed Action would purchase water from vendors as needed to support exploration drilling and dust suppression activities. Water for the Project would be trucked in and would be procured from the nearby Gold Rock Ranch RV Resort, a local water purveyor, and/or the City of Yuma, using water that is already permitted for pumping/use and available for sale. The Project does not propose groundwater pumping. As stated in Section 3.22 of the EA/MND, impacts to water resources would be negligible.</p> <p>Federal agencies, including the BLM, implement NEPA per the procedures developed by CEQ, which is the responsible agency for developing NEPA guidance for implementation. In line with the CEQ guidelines revised in 2020 and then again in 2022 for implementing regulations of NEPA, which does not mandate particular results or substantive outcomes but rather requires Federal agencies to consider environmental impacts of Proposed Actions, the BLM determined that an EA is the appropriate level of NEPA review for the Proposed Action. In following 40 CFR Section 1501.5(c)(1) and 40 CFR 1501.6(a) per the 2022 updates to the NEPA Implementing Regulations under Docket CEQ-2021-0002, the BLM has determined that it has provided sufficient evidence and analysis to deem preparation of an EA followed by issuance of a FONSI appropriate for the Proposed Action.</p>

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			<p>The EA/MND’s water supply analysis does not comply with this mandate. Instead, it falters from the outset because the EA/MND acknowledges that water for the project has not yet been secured. The EA/MND cannot rely on paper water to conclude the Project has adequate water available to supply its needs.</p> <p>Furthermore, while the EA/MND promises to not rely on surface and groundwater “within the Project Area,” it provides no assurances that it will not buy groundwater from the neighboring Gold Rock Ranch or the local water purveyor. (EA/MND at 65.) Given the “minimal amount” of surface water in the region (EA/MND at 74), nothing is stopping the Project from purchasing and using groundwater from the local basin. CEQA requires that the Project disclose and analyze if it will “[s]ubstantially decrease groundwater supplies or interfere substantially with groundwater recharge. (CEQA Guidelines, Appendix G, X(b).) This analysis is not limited to the Project area. The EA/MND fails to study this impact.</p>	
29.0	29.24	Center for Biological Diversity	<p>VII. The Project will Have a Significant Impact on Cultural Resources and Cultural Landscapes.</p> <p>Substantial evidence, gathered through BLM’s government-to-government consultation with culturally affiliated tribes in the project area, supports a “fair argument” that there is a significant effect on the environment. (<i>See MND § 3.14 Native American Religious Concerns and Traditional Values.</i>) Despite this evidence, the County has failed to engage in a “good faith” effort and consult with all affected tribes, in violation of AB 52. (Pub. Res. Code § 21082.3(a).)</p> <p>This failure underscores the EA/MND’s failure to evaluate all known facts about the cultural resources and cultural landscapes that were obtained through ongoing consultation by BLM. (<i>See MND § 3.14.2</i>)</p>	<p>Both the BLM and County have coordinated in extensive consultation efforts with Native American tribes who are potentially culturally affiliated with the Project Area. Please refer to the response to Comment #23.10 and #23.21 above, which describes the Section 106 of the NHPA consultation process wherein the BLM has requested additional information about the nature and extent of the claim that the Project Area is located within a Traditional Cultural Property. Also see Section 3.14.5 in the EA/MND which describes the County’s AB 52 consultation process. In addition to letter notifications, County staff has participated in numerous in-person meetings, site visits, etc. in coordination with the BLM.</p> <p>As discussed in the EA/MND, in accordance PRC Section 21074 – AB 52, the County contacted the Fort Yuma Quechan Indian Tribe to obtain their input and concern with potential impacts to tribal cultural resources as a result of the Project. The Fort Yuma Quechan Indian Tribe is that only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52. As discussed under Comment #22.6, the Fort Yuma Quechan Indian Tribe identified that the proposed project is located within a larger landscape they consider a Traditional Cultural Property. The BLM requested additional information about the nature and extent of the Traditional Cultural Property as part of its Government-to-Government consultation, as well as for Section 106 of the NHPA consultation and relevant to other EOs and regulations. The BLM recognizes the attributes that give Traditional Cultural Property’s significance, such as their association with historical events or traditional practices, are often intangible in nature. As stated in Section 3.8 of the EA/MND, all known cultural resource sites would be</p>

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				avoided thus minimizing direct impacts. No adverse impacts would occur with avoidance measures implemented. The BLM would require additional mitigation measures to minimize indirect impacts to known cultural resource sites, as described in Section 3.8.3 and Appendix F of the EA/MND, resulting in indirect impacts being negligible, short-term, and localized, and therefore less than significant under CEQA.
29.0	29.25	Center for Biological Diversity	<p>1. The County has Failed to Consult with Affected Tribes, As AB 52 Requires.</p> <p>Under CEQA, as set forth in AB 52, a lead agency must engage in a “good faith” effort to consult with all affected tribes to develop mitigation measures that are reasonable and mutually agreed upon. (Pub. Res. Code, § 21082.3(a).) An agency cannot certify an MND if it has not conducted and completed consultation with all affected tribes that are willing to engage. (Pub. Res. Code, § 21082.3(b).) Agencies are required to provide notice to all “California Native American tribe(s) traditionally and culturally affiliated with a geographic area of the proposed project.” (Pub. Res. Code § 21080.3.1(a)-(b).)</p> <p>The MND identified several tribes that could potentially be impacted by the project. BLM sent 16 notice letters initiating formal government-to-government consultation and received 7 comment letters. Imperial County, on the other hand, sent out only one written notice for consultation, to the Fort Yuma Quechan Indian Tribe. (<i>See</i> MND at Sec.3.14.2-5)</p> <p>By failing to engage in a “good faith” effort and consult with all affected tribes to develop mitigation measures that are reasonable and mutually agreed upon, the County has not complied with CEQA. (Pub. Res. Code § 21082.3(a).) The County must contact all affected tribes and work together with those tribes to develop mitigation measures. Until the County has performed consultation, it cannot move forward with certifying the project.</p>	<p>As discussed in response Comment #29.15, the County has been working closely with the BLM to ensure that tribal cultural consultation and engagement efforts are coordinated and comprehensive.</p> <p>AB 52 requires lead agencies to consult with California Native American tribes that have requested formal consultation on a project. The Fort Yuma Quechan Indian Tribe is the only California Native American tribes that indicated they are traditionally and culturally affiliated with the geographic area where the Project is located, and has formally requested consultation. Therefore, in accordance with PRC sections 21080.3.1 and 21080.3.2, the County provided formal notification to the designated contact of the Fort Yuma Quechan Indian Tribe.</p> <p>On September 9, 2021, the County distributed an AB 52 consultation letter for the proposed Project. Specifically, Project information, a map, and contact information was sent to the Fort Yuma Quechan Indian Tribe. Due to the geographic location of the Project, the Fort Yuma Quechan Indian Tribe is the only Native American tribe that has claimed traditional and cultural affiliation with the Project Area and is therefore the only tribal entity required to be notified of the Project by Imperial County pursuant to AB 52. No response letter was received by Imperial County from the Fort Yuma Quechan Indian Tribe</p> <p>Although no formal response was received by the County in response to their AB 52 notification, it is also important to note that consultation with the Fort Yuma Quechan Indian Tribe is ongoing, and both the BLM and County are committed to ensuring that any potential effects to cultural resources are either avoided or minimized to the extent feasible.</p>
29.0	29.26	Center for Biological Diversity	<p>2. Absent Adequate Consultation, the EA/MND Lacks a Basis to Conclude Impacts to Tribal Cultural Resources are Fully Disclosed and Properly Mitigated.</p> <p>Under CEQA, a historical resource is a resource listed or determined to be eligible for listing in the California Register of Historical Resources. (Pub. Res. Code § 21084.1) The fact that a resource is not listed or determined to be eligible for listing or not</p>	<p>See responses to Comments #29.15 and #29.16 above. Both the County and the BLM have engaged in extensive and comprehensive tribal consultation in accordance with AB 52 and Section 106. See responses above for additional detail regarding the tribal cultural resource evaluation and related tribal consultation process.</p>

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			<p>included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 “shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.” (<i>Id.</i>) Historic resources are subject to CEQA and should be given “special recognition.” (<i>See Friends of Sierra Madre v. City of Sierra Madre</i> (2001) 25 Cal.4th 165, 186; <i>Citizens for a Sustainable Treasure Island v. City & County of San Francisco</i> (2014) 227 Cal.App.4th 1036, 1065.) Tribal cultural resources include places and objects that hold cultural value to California Native American tribes, regardless of the tribe’s recognition status. (Pub. Res. Code § 21084.2(b).) A tribal cultural landscape may also qualify as a cultural resource depending on the extent it is “geographically defined in terms of the size and scope of the landscape.” (Pub. Res. Code § 21074(b).)</p> <p>The EA/MND identified a total of 75 cultural resources within a mile of the site and 12 that intersect the project site. Within the relevant area, “25 cultural prehistoric resources were identified that may be <i>in continued use</i> by Native American individuals, such as trails, geoglyphs, and rock art sites.” (EA/MND at 38, emphasis added.) Furthermore, in consultation with BLM, the Fort Yuma Quechan Indian Tribe objected to the project due to impacts to “a significant cultural landscape and items of cultural patrimony which are integral to the spiritual and everyday lives of the Quechan people.” (EA/MND at 48.)</p> <p>Evidence exists from BLM’s consultation that the Project is within a region that is “highly significant” and holds great cultural, religious, and spiritual significance to the Fort Yuma Quechan Indian Tribe. (EA/MND at sec. 3.1.3.) The County disregards this evidence, and concludes that, because the Fort Yuma Quechan Indian Tribe did not respond to the County’s letter, it need not consider the evidence secured through BLM’s consultation of cultural resources on site. Instead, the County considered only impacts to cultural resources identified via record searches. It refused to evaluate the impacts to tribal cultural resources or cultural landscapes. Until BLM completes consultation and Imperial County starts consultation with all culturally affiliated and affected tribes, the EA/MND cannot accurately conclude that impacts to tribal resources will be less than significant. (Pub. Res. Code § 21074(b)[consultation ensures that tribal knowledge about cultural resources and landscapes are fully considered.]) Given this clear evidence of tribal cultural resources within and near the project area, lack of response to the AB 52 consultation letter is not adequate to support the County’s conclusion that impacts to cultural resources are less than significant.</p>	<p>Additionally, a detailed Class III Cultural Resources Inventory Report was prepared and accepted by the BLM, and the non-confidential results of such represent the baseline conditions and are described in Section 3.8 of the EA/MND. Additionally, should the Project be approved and, as such, the cultural monitoring commences upon Project initiation, the BLM will contact all tribes that have engaged in Government-to-Government consultation with the opportunity to participate as Tribal Cultural Monitors to conduct the BLM-required archaeological monitoring.</p>
29.0	29.27	Center for Biological Diversity	<p>VIII. CONCLUSION</p> <p>Thank you for the opportunity to submit comments on the EA/MND for the Project. We urge the County not to approve the Project without first preparing an EIR and complying</p>	<p>Thank you for your comments. Note that both comment letters received from the Conservation Organizations have been placed on file with the lead agencies pursuant to NEPA and CEQA. Both the County and BLM have maintained</p>

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			<p>with CEQA. The EIR should, among other things, address and evaluate the potentially significant impacts described in this letter.</p> <p>Given the possibility that the Conservation Organizations may choose to pursue legal remedies in order to ensure that the County complies with its legal obligations, including those arising under CEQA, we respectfully remind the County of its statutory duty to maintain and preserve all documents and communications that may constitute part of the “administrative record” of this proceeding. (§ 21167.6(e); <i>see Golden Door Properties, LLC v. Superior Court</i> (2020) 53 Cal.App.5th 733.) The administrative record encompasses any and all documents and communications that relate to any and all actions taken by the County with respect to the Project, and includes “pretty much everything that ever came near a proposed [project] or [] the agency’s compliance with CEQA...” (<i>County of Orange v. Superior Court</i> (2003) 113 Cal.App.4th 1,8.) The administrative record further includes all correspondence, emails, and text messages sent to or received by the County’s representatives or employees, that relate to the Project, including any correspondence, emails, and text messages sent between the County’s representatives or employees and the Applicant’s representatives or employees. Maintenance and preservation of the administrative record requires that, <i>inter alia</i>, the County (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.</p> <p>Please include this letter and all references in your project file for the Project. Please also include all of the signatories below on your notice list for all future updates, notices, and documents related to the Project and do not hesitate to contact us with any questions at the numbers or emails listed below.</p>	<p>administrative records in accordance with applicable laws and requirements under NEPA and CEQA.</p>

Appendix J: List of Preparers

Table J-1: NEPA Preparers (Stantec Consulting Services Inc.)

Name	Title	Resource Area
Shelby Hockaday	Project Manager	NEPA Manager, Lead Author
Steve Morton	Principal	Senior Review, Cumulative
Hayley Barnes	Environmental Scientist	Project Coordinator, Recreation, Soils
Jason Trook	GIS Analyst	GIS Support
Shantanu Kongara	Air Specialist	Air Quality, Climate Change and Greenhouse Gases
Ellen Brady	Archaeologist	Cultural Resources, Native American Religious Concerns and Traditions
Sierra Marke	Environmental Scientist	Soils
Ian Dudley	Environmental Scientist	Wildlife, including Migratory Birds, Special Status Species, and Threatened and Endangered Species
Gianni Giuliano	Technical Writer	Visual Resources
Dani Putney	Project Coordinator	Technical Editor/Formatting

Table J-2: CEQA Preparers (Sespe Consulting, Inc.)

Name	Title	Resource Area
John Hecht	President	CEQA, Reclamation
Graham Stephens	Project Manager	CEQA

Table I-3: Bureau of Land Management

Name	Title	Resource Area
Mayra Martinez	Geologist	Project Manager
Carrie Sahagun	Associate Field Manager	Senior Review
Jennifer Whyte	Field Manager (Detailed)	Field Manager Coordination and Oversight
Christian Rodriguez	Planning and Environmental Specialist, El Centro Field Office	NEPA Review
Regan Watt	Planning and Environmental Specialist, California Desert District Office	NEPA Review
Amy McGowan	Planning and Environmental Specialist, California State Office	NEPA Review
Peter DeJongh	Wildlife Biologist	Wildlife Resources, Vegetation, Invasive and Non-Native Noxious Weeds, Threatened and Endangered Species
Grant Day	Archaeologist	Cultural Resources, Native American Religious Concerns and Traditions
John Johnson	Visual Resources Specialist	Visual Resources
Ismael Ramirez	Natural Resource Specialist	General Biology, Vegetation, Invasive and Non-Native Noxious Weeds, Air Quality, Soil, and Water Resources
Hannah Robinson	Archaeologist, California Desert District Office	Cultural Resources, Native American Religious Concerns and Traditions

Name	Title	Resource Area
Frank Giles	Air Resource Specialist, California and Nevada	Air Quality, Climate Change, and Greenhouse Gases

Table J-4: Imperial County Planning Department

Name	Title	Resource Area
Michael Abraham	Assistant Planning & Development Services Director	CEQA

**ATTACHMENT “E” – RECLAMATION
PLAN RESOLUTION**

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, APPROVING RECLAMATION PLAN #21-0001 FOR SMP GOLD CORP. (AKA ORO CRUZ) MINERAL EXPLORATORY PROJECT.

WHEREAS, SMP Gold Corp. (aka Oro Cruz), has submitted an application for Reclamation Plan #21-0001 to conduct mineral exploratory mining operations; and

WHEREAS, a Mitigated Negative Declaration and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA as Amended"; and

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of adoptions and certifications; and

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on June 28, 2023; and

WHEREAS, on November 17, 2022, the Environmental Evaluation Committee heard the project and recommended that the Planning Commission adopt the Mitigated Negative Declaration;

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Reclamation Plan #21-0001 prior to approval; the Planning Commission finds and determines that Reclamation Plan is adequate and prepared in accordance with the requirements of the Imperial County General Plan Land Use Ordinance and the California Environmental Quality Act (CEQA), that analyzed the environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning law and the County of Imperial the following findings for Reclamation Plan #21-0001 has been made as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan.

The General Plan designates the subject site as "Open Space". The site is classified as S-2 (Open Space/Preservation) on BLM-administered lands per Zoning Map #70 of the Imperial County Land Use Ordinance (Title 9). The existing zone is compatible with the Land Use Element of the Imperial

County General Plan. The proposed mineral (gold) exploratory activities are permitted uses pursuant to the County's Land Use Ordinance (Title 9), Division 5, Section 90519.01, Subsection (g) – Mineral Extraction.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used.

The proposed Project is consistent with the purpose of the zone it is located within. The mineral (gold) exploratory activities are consistent with the uses allowed within the S-2 Open Space/Preservation Zone with an approved Reclamation Plan.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the Land Use Ordinance.

The proposed mineral (gold) exploratory project is consistent with the Imperial County Land Use Ordinance (Title 9) with an approved Reclamation Plan.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California.

The Reclamation Plan will insure that the project complies with all applicable regulations of the County of Imperial and the State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed mineral (gold) exploratory project would not result in significant impacts to surrounding properties or residents. The proposed project site is located within the historic Muchacho-Tumco Mining District, area historically disturbed by mining activities with surrounding land uses that include prospecting and recreation. The proposed project site is situated approximately 15 miles northwest of the unincorporated townsite of Winterhaven, CA and approximately 2.3 miles east of the Gold Rock Ranch RV Resort.

F. The proposed use does not violate any other law or ordinance.

The proposed project is consistent with the Land Use Ordinance of the County of Imperial (Title 9) and CEQA. The proposed project will be subject to a Reclamation Plan and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The mineral (gold) exploratory activities are permitted uses subject to a Reclamation Plan and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Planning Commission of the County of Imperial **DOES HEREBY** approve Reclamation Plan #21-0001, subject to the attached Conditions of Approval.

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the preceding resolution was approved by the Planning Commission at a meeting conducted on September 13, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

**ATTACHMENT “F” – RECLAMATION PLAN
#21-0001**

RECLAMATION PLAN ORO CRUZ EXPLORATION PROJECT

SMP Gold Corp.
Imperial County, California

CA Mine ID No. – TBD

March 2023

Prepared for: Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

Prepared by: Sespe Consulting, Inc.
374 Poli Street, Suite 200
Ventura California 93001
(805) 275-1515

In coordination with: SMP Gold Corp.
Suite 420 – 789 West Pender Street
Vancouver, B.C., Canada V6C 1H2

RECLAMATION PLAN ORO CRUZ EXPLORATION PROJECT

SMP Gold Corp.
Imperial County, California

CA Mine ID No. – TBD

March 2023

This Reclamation Plan was prepared by the undersigned on behalf and under the direction of the SMP Gold Corp.



Brian G. Anderson, P.G.
Principal Geologist
Sespe Consulting, Inc.



Pearce Swerdfeger, P.E.
Project Engineer
Sespe Consulting, Inc.

RECLAMATION PLAN

SMP – Oro Cruz Exploration Project
Imperial County, California
CA Mine ID No. – TBD

March 2023

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EXPLORATION RECLAMATION PLAN

**SMP – Oro Cruz Exploration Project
Imperial County, California
CA Mine ID No. – TBD**

March 2023

1.0 EXPLORATION PLAN

1.1 Introduction

SMP Gold Corp. (SMP) proposes mineral exploration activities at the Oro Cruz Pit Area (the “Project”) within lands administered by the Bureau of Land Management (BLM), northwest of Yuma, Arizona, in Imperial County (the “County”), California. The Project is located on previously mined BLM lands, within Township 15 South, Range 20 East, Sections 1, 2, 12 and 13, and Township 15 South, Range 21 East, Sections 6, 7 and 18 (the “Project Area,” see Figure 1 and Figure 2), that are managed by the BLM’s El Centro Field Office. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

The Project consists of using existing access roads and improving some existing roads, as well as constructing a new temporary exploration drilling access road, up to sixty-five (65) exploration drill pads, including eight (8) helicopter landing pads, to support exploration in seven (7) Drill Areas. The Project would also entail constructing a new access road and 2.8-acre staging area for access to the Oro Cruz Portal on BLM lands (Figure 5A). The total surface disturbance on BLM lands for the proposed Project activities is estimated at 20.5 acres.

The Project is proposed to begin upon completion of all BLM and Imperial County coordination, permitting and bonding. The Project mobilization, road construction, drilling, and borehole abandonment would be completed within 12 to 24 months of Project initiation. Drilling activities potentially would be completed in up to two drill areas at once. Drill areas would be potentially revisited a second and third time based on the findings. Once operations are complete, Project areas to be reclaimed would be converted to land uses consistent with mining, recreational uses, and open space. As feasible, Project reclamation would be completed concurrently with exploration drilling activities. Reclamation activities and subsequent monitoring for the success of reclamation of those areas would be completed within five (5) years of Project initiation.

As required by the California Surface Mining and Reclamation Act (SMARA) and applicable County mining ordinance(s), this Reclamation Plan was prepared and submitted to the County for approval. This Reclamation Plan was prepared in compliance with the following:

- SMARA, as amended (Public Resources Code Section 2710 et seq.);
- California Code of Regulations (CCR; Title 14, Division 2, Chapter 8, Subchapter 1, Section 3500 et seq.);
- Imperial County, Code of Ordinances (Title 9, Division 20 – Surface Mining and Reclamation);
- Imperial County, General Plan (1993); and

- California Environmental Quality Act (California Public Resources Code [PRC], Sections 21000 - 21178, and Title 14 CCR, Section 753, and Chapter 3, Sections 15000 – 15387).

1.2 Site Location & History, CCR §3502(b)(1)

The Oro Cruz Project is in the Tumco mining district in the Cargo Muchacho Mountains, 14 miles southeast of the operating Mesquite gold mine in Imperial County, California. The site is located approximately 35 minutes northwest of Yuma, Arizona, and is accessed via various paved highways and graded roads. The Project Area has been previously disturbed by significant mining activities. Current surrounding land uses include prospecting and recreation. The Tumco Historic Mine is a historic and recreational area managed by the BLM for uses such as hiking, prospecting, wildlife viewing, and photography within western portions of the Project Area.

The Cargo Muchacho Mountains have an extensive history of gold mining, dating back more than 130 years. According to Tetra Tech (Tetra Tech, 2011), gold mining has occurred historically in the area from 1890 to 1916 and 1932 to 1941, producing greater than 150,000 ounces of gold. In the mid-1990s, the Project property was developed by MK Gold Company.

As discussed above, the Project Area is within previously mined BLM lands within Township 15 South, Range 20 East, Sections 1, 2, 12 and 13, and Township 15 South, Range 21 East, Sections 6, 7 and 18. The Project Area and parcels therein are shown on Figure 2. The Project is comprised of the nine (9) Assessor’s Parcel Numbers (APNs). Please see Table 1 and Table 2 which summarize County and BLM land use information applicable to the Project Area.

Table 1: Imperial County Land Use Summary

Assessor’s Parcel Number	Property Owner	County General Plan Designation	County Zoning Designation
050-110-006	BLM	Recreation/Open Space	N/A (BLM Land)
050-110-007	BLM	Recreation/Open Space	N/A (BLM Land)
050-110-008	BLM	Recreation/Open Space	N/A (BLM Land)
050-110-009	BLM	Recreation/Open Space	N/A (BLM Land)
050-110-023	BLM	Recreation/Open Space	N/A (BLM Land)
050-110-024	BLM	Recreation/Open Space	N/A (BLM Land)
050-280-001	BLM	Recreation/Open Space	N/A (BLM Land)
050-280-012	BLM	Recreation/Open Space	N/A (BLM Land)
050-280-013	BLM	Recreation/Open Space	N/A (BLM Land)

See Figure 2 for more detail.

Table 2: Bureau of Land Management Land Use Summary

Land Use Category	Project Area Designation
Land Status	Bureau of Land Management
Area of Critical Environmental Concern (ACEC)	Picacho ACEC
Desert Wildlife Management Area	N/A (No Designations)
BLM Wilderness	N/A (No Designations)
BLM Imperial Sand Dunes Recreation Area (ISDRA) Fee Area Boundary	N/A (No Designations)
Field Office Boundary	El Centro Field Office

See Figure 1 for more detail.

1.3 General Ownership / Operation Information, CCR §2772(c)

1.3.1 Operator & Property Owner Information

PROJECT/OPERATIONS NAME: Oro Cruz Exploration Project

PROJECT OWNER/OPERATOR: SMP Gold Corp. (SMP)

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1.3.2 SMARA Lead Agency Information

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Planning & Development Services

STAFF CONTACT: Michael Abraham
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El Centro, California 92243

1.3.3 General Operation Schedule & Information

Estimated Initiation Date: 3rd Quarter 2023

Estimated Operating Life: 12 to 24 months (from Project initiation)

Estimated Operations Termination Date: 3rd Quarter 2022 to 2025

Estimated Reclamation Completion: 2028 (5 years from Project initiation)

Reclaimed End Use: Land consistent with mining, recreational uses, and/or open space.

Table 3: Operation Information

Component	Proposed Plan
SMARA Project Type	Prospecting and Exploratory Activities
Quantity & Type of Mineral Commodity	N/A (Project is an exploratory drilling program)
Estimated Total Disturbance/Reclamation Area (acres)	20.5 acres
Number of Exploratory Boreholes	65 boreholes
Maximum Anticipated Depth of Boreholes (feet bgs)	800-feet bgs
Total Duration of Exploratory Activities	12 to 24 months (approximate)
Total Maximum Duration of Project	5 years (approximate)

“bgs” = below ground surface

1.4 Environmental Setting, CCR §3502(b)(1)

1.4.1 Geologic Setting

As previously discussed, the Oro Cruz Project is in the Cargo Muchacho Mountains in southeastern California. Based on a technical report prepared by Tetra Tech (Tetra Tech, 2011), the range is comprised predominately of Jurassic metavolcaniclastic rocks of the Tumco Formation, now present as well-foliated amphibolite-facies gneiss and schist. Mesozoic biotite granite and associated pegmatite dikes cut the Tumco Formation and cut Mesozoic hornblende-biotite quartz monzonite. The granite and monzonite form large intrusive bodies in the range. The principal structural fabric in the range is west-northwest. Low-angle faults are cut by northwest trending faults.

Given that the exploration activities will occur primarily within areas comprised of crystalline rocks, no paleontological resources are expected. Additionally, a review of literature pertaining to the geology of the Cargo Muchacho Mountains did not identify fossil localities in the Project Area, and the nature and type of Quaternary alluvium does not exhibit biostratigraphic characteristics favorable for preservation.

With respects to the Project Area mineralization, the description below is compiled from the technical report prepared by Tetra Tech (Tetra Tech, 2011). The Oro Cruz mineral deposit is believed to be a detachment-fault-related gold deposit consisting of replacement mineralization along a low-angle detachment fault related to regional extensional fault systems. Mineralization is hosted predominantly within or along the boundaries the Tumco Formation. Mesothermal mineralization occurs in multiple brown to brownish gray siliceous zones containing hematite, magnetite, quartz, mica, feldspar, chlorite, and copper oxides. Native gold containing very low silver is associated with iron and copper oxides.

1.4.2 Hydrogeology

A review of the California Groundwater Bulletin Groundwater 118 (CA Department of Water Resources, 2004) indicates the Project area is situated within the Imperial Valley Groundwater Basin, located in the southeastern part of California at the international border with Mexico. The basin lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea. The groundwater basin extends

across the border into Baja California where it underlies a contiguous part of the Mexicali Valley (CA Department of Public Works, 1954). The primary hydrologic features are the New and Alamo rivers, which flow north towards the Salton Sea. The rivers were formed in the mid to late 1800s when the Colorado River occasionally escaped the normal channel and flowed northward towards the present-day Salton Sea (Setmire, 1979). The All-American Canal (AAC) and the Coachella Canal also occur over the top of the basin.

According to Coes, et al. (Coes, et al., 2015), groundwater in the Project Area is recharged naturally near the mountain fronts along the washes from precipitation runoff and by underflow from the east between the Cargo Muchacho Mountains and Pilot Knob. Since 1940, groundwater has been recharged along the AAC and Coachella Canal from seepage of Colorado River water. Also, Tompson, et al. (Tompson, et al., 2008) note that irrigation-return flow could also serve as a recharge source to the aquifer system in Imperial Valley.

As noted in the study by Coes, et al. (Coes, et al., 2015), prior to 1940 the AAC was not carrying water, and groundwater pumping was minimal in the study area; the groundwater system is considered to have been in steady-state conditions. Well elevation data collected before 1940 indicate groundwater elevations at that time ranged from more than 100-feet above mean sea level (amsl) on the east side of the study area near the Cargo Muchacho Mountains and Pilot Knob to 10- to 20-feet amsl on the west side of the study area near Imperial Valley. Groundwater movement generally was from east to west, and groundwater was recharged primarily by underflow through alluvial deposits between the Cargo Muchacho Mountains and Pilot Knob (Loeltz, Irelan, Robison, & Olmsted, 1975)/(Harshbarger, 1977).

1.4.3 Climate

Climate within the Project Area is characterized by hot dry conditions in the summer months and dry mild winters. Average annual rainfall is 3.9 inches per year, occurring primarily during winter (December through February) and the monsoon season (August and September). Average high temperature of the hottest (July) month is 107° Fahrenheit (F) and average low temperature of the coldest month (December) is 46° F (WRCC, 1964 - 1996).

1.4.4 Soils, Erosion, & Slope Stability

Within the Project Area, elevations range from 600-feet amsl to 800-feet amsl.

Soils in the Project Area developed from weathered granitic rock and schistose rock substrates. The soils consist of extremely gravelly sands or gravelly loams with up to 90% coarse fragments. Soils within the Project Area are of two general types based on substrate and topographic position: residual soil material weathered in place on slopes and ridges; and deeper alluvial soils transported by water and gravity to toe slopes, washes and outwash fans. The soils within the Project Area also contain large areas of disturbance from previous mining and reclamation activities.

A review of a technical report prepared by Dycker & Associates, Inc. (Dycker & Associates, Inc., 1995) indicates the native soils within the Project Area have developed under desert conditions of low moisture, high temperatures, and little or no chemical weathering. Soils are a product of the mechanical weathering process in this arid climate and are generally composed of coarse sands, gravel, and cobbles with little profile development. Soils vary from rock outcrops and a thin residual veneer of in-place rock materials on mountain ridges and slopes, to deep, coarse, alluvial material in washes and outwash fans. Old piedmont surfaces, such as desert pavement, have developed a characteristic type of rock surface

underlain by vesicular and saline subsoils peculiar to this desert region. Rock outcrops on peaks, ridges, and knobs occur throughout the area. Cobbles and rock fragments are common on the ground surface and form part of the weathered desert pavement on stable bajadas (Dycker & Associates, Inc., 1995).

SMARA regulations (§3711) require salvage of topsoil and other suitable growth media (subsoil) prior to mining activities, and redistribution in areas to be revegetated. SMARA regulations (§3705) also require soil analysis to determine if the growth media in revegetation areas consists of native topsoil and is otherwise adequate to support successful revegetation. Although the potential to salvage topsoil/subsoil from the Project Area is limited, as feasible topsoil and subsoil will initially be scraped off the drill pads and new access road areas and stored along the edges of the pads/roads in small stockpiles and/or berms in accordance with §3711. The topsoil and subsoil will be salvaged and stored through the duration of Project activities, and then used as backfill for reclamation activities once drilling is complete and equipment demobilization occurs. Please see Section 2.10 for more detail related to topsoil and subsoil storage.

1.4.4.1 Erosion, Sediment Transport, & Windblown Dust

Erosion, sediment transport and windblown dust are controlled by implementation of the storm water Best Management Practices (BMPs), compliance with Imperial County Air Pollution Control District (ICAPCD) applicable rules and regulations, and site-specific inspections (as needed) conducted by the operator. Also, see Sections 1.11 and 2.11 for summaries of dust control and storm water BMPs to be implemented onsite.

As needed, SMP will implement BMPs for erosion and sediment control measures. The effectiveness of erosion control measures would be monitored throughout the duration of the Project. Additionally, SMP will follow all erosion and sediment control measures identified in this Reclamation Plan.

Air quality impacts associated with the Project would be primarily from fugitive dust generation by vehicles and equipment during operations and from vehicle and drill powerplant emissions. The Project Area is within the jurisdiction of the ICAPCD. The Project would comply with applicable State of California and ICAPCD rules for fugitive dust emissions. Specifically, the Project will comply with Regulation VIII – Fugitive Dust Rules, specifically Rules 800 through 806, which prescribe measures for the management of windblown dust.

1.4.5 Vegetation & Biological Resources

Vegetation in the Project Area is low desert scrub typical of the high temperature region of southeastern California. The following description of the Project Area biological and vegetation setting is taken from the technical report prepared by Dycker & Associates, Inc. (Dycker & Associates, Inc., 1995). Vegetation within the Project Area is low desert scrub typical of the severe temperate desert. Vegetative cover is extremely low and variable, and species diversity is minimal. The existing vegetation is highly adaptable to the desert heat and droughts, and on the higher ground consists of scattered desert species (e.g., creosote bush, etc.). Wash areas in the region collect rain runoff and provide a break in the arid desert areas and, therefore, have the potential to support a wider variety of plants including large shrubs and small trees, and a variety of ground cover. The vegetation is sparse, with denser overall cover on upland mountain slopes that decreases on the alluvial fans and flats.

Recent field surveys conducted by WestLand Resources Inc. (2021) document similar conditions. In general, vegetation in the Project Area is slow desert scrub typical of the high temperature region of

southeastern California. In general, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*). In addition, large portions of the Project Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summary, vegetation in the Project Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats. The floral community is more specifically described in Section 2.3.

1.4.6 Wildlife

Wildlife habitats on and around the Project Area have been significantly influenced by historic mining activities, as well as by recreational and mine exploration activities. During field surveys conducted in March 2021 a total of 26 wildlife species were observed. See Section 2.4 below for more detail.

To avoid potential adverse impacts to sensitive plant and wildlife species and habitats a variety of protection measures are associated with the Project. These include specific measures for the Mojave desert tortoise (SMP Gold Corp., 2020). Please see the Biological Resources Assessment (WestLand Resources, Inc., 2021) included in Appendix B for additional detail.

1.5 Exploration Activities, CCR §2772, §3502, §3503

1.5.1 Project Summary, CCR §2772(c)

The Project Area is within previously mined BLM lands that are managed by the BLM’s El Centro Field Office (Figure 1). The total surface disturbance for the proposed Project activities on BLM lands is estimated at 20.5 acres.

As discussed in Section 1.0, the Project consists of the following:

- Using existing access roads and improving approximately 2.6 miles of existing roads;
- Constructing approximately 6.2 miles of new 12-foot-wide temporary exploration drilling access roads;
- Constructing up to 65 drill pads (including 8 helicopter landing pads) to support exploration; and,
- Constructing approximately 9,640 linear feet (1.8 miles) of new, 15-foot-wide access road and a 2.8-acre staging area to serve as primary access to the Oro Cruz Portal on BLM lands (Figure 5A).

The 2.8-acre staging area at the Oro Cruz Portal would be used for exploration within the proposed Drill Areas and underground mine area and resources. The area would house a 1,000-gallon diesel fuel tank and fueling station; helicopter landing area with 300-gallon JetB fuel tank and refueling station; two (2) diesel-powered generators (125 kilowatts [kW] or equivalent); two (2) portable compressors (375 Series or equivalent); parking for access to the underground mine; and laydown areas for exploration drilling.

The Project is proposed to begin upon completion of applicable BLM and Imperial County coordination, permitting and bonding requirements. The Project mobilization, road construction, drilling, and borehole abandonment would be completed within 12 to 24 months, following issuance of the necessary approvals by the County and BLM. Drilling activities potentially would be completed in up to two (2) drill areas at once. Drill areas would be potentially revisited a second and third time based on the findings. As feasible, Project reclamation would be conducted concurrently with exploration drilling activities, and monitoring for the success of reclamation of those areas would be completed within five (5) years of Project

implementation.

1.5.2 Project Area of Disturbance Summary

As discussed above and summarized in Table 4 below, Project Areas would be disturbed by construction of new access roads, helicopter landing pads, drill pads, and the Oro Cruz Portal staging area (approximately 2.8 acres in size). To minimize land disturbance, existing access roads would be used to the extent possible, but some new access roads would be required across BLM land (see Figure 2 and Figure 3).

The access routes will be used by a track-mounted drill rig and support vehicles. The drill pads will consist of an approximately 60-foot by 40-foot area that will be cleared to hold the drilling collar and sumps for drilling mud (wastewater and fluid), along with all drilling equipment and personnel during construction. The sumps would be approximately 12-feet by 12-feet and 6 feet deep.

Clearing activities would be conducted with a bulldozer, track hoe and hoe ram. As summarized in Table 4 below, the total surface disturbance for the proposed activities is estimated at 20.5 acres on BLM lands.

Table 4: Estimated Project Surface Disturbance

Activity Area	Description of Activity	Est. Impact by Activity (square feet)	Est. Impact by Activity (acres)	Est. Impact Per Drill Area (acres)
Drill Area 1	Exploration Reverse Circulation (RC) or core drilling to be conducted within 14, 60-by-40-foot drill sites (accessed via existing and new roads).	33,600	0.8	1.9
	Exploration core drilling to be conducted within 2, 60-by-40-foot drill sites (accessed via helicopter).	4,800	0.1	
	Approximately 3,500 linear feet of 12-foot-wide new temporary exploration drilling access road.	42,000	1.0	
Drill Area 2	Exploration RC or core drilling to be conducted within 13, 60-by-40-foot drill sites (accessed via existing and new roads).	31,200	0.7	3.8
	Exploration core drilling to be conducted within 2, 60-by-40-foot drill sites (accessed via helicopter).	4,800	0.1	
	2 helicopter landing pads (50-by-50-foot area).	5,000	0.1	
	Approximately 10,500 linear feet of 12-foot-wide new temporary exploration drilling access road.	126,000	2.9	

Activity Area	Description of Activity	Est. Impact by Activity (square feet)	Est. Impact by Activity (acres)	Est. Impact Per Drill Area (acres)
Drill Area 3	Exploration RC or core drilling to be conducted within 7, 60-by-40-foot drill sites (accessed via existing and new roads).	16,800	0.4	1.8
	Exploration core drilling to be conducted within 3, 60-by-40-foot drill sites (accessed via helicopter).	7,200	0.2	
	3 helicopter landing pads (50-by-50-foot area).	7,500	0.2	
	Approximately 3,500 linear feet of 12-foot-wide new temporary exploration drilling access road.	42,000	1.0	
Drill Area 4	Exploration RC or core drilling to be conducted within 4, 60-by-40-foot drill sites (accessed via existing and new roads).	9,600	0.2	1.2
	Approximately 3,500 linear feet of 12-foot-wide new temporary exploration drilling access road.	42,000	1.0	
Drill Area 5	Exploration RC or core drilling to be conducted within 2, 60-by-40-foot drill sites (accessed via existing and new roads).	4,800	0.1	1.2
	Exploration core drilling to be conducted within 3, 60-by-40-foot drill sites (accessed via helicopter).	7,200	0.2	
	3 helicopter landing pads (50-by-50-foot area).	7,500	0.2	
	Approximately 2,700 linear feet of 12-foot-wide new temporary exploration drilling access road.	32,400	0.7	
Drill Area 6	Exploration RC or core drilling to be conducted within 5, 60-by-40-foot drill sites (accessed via new access road).	12,000	0.3	0.8
	Approximately 1,800 linear feet of 12-foot-wide new temporary exploration drilling access road.	21,600	0.5	
Drill Area 7	Exploration RC or core drilling to be conducted within 10, 60-by-40-foot drill sites (accessed via existing and new roads).	24,000	0.6	2.5
	Approximately 7,000 linear feet of 12-foot-wide new temporary exploration drilling access road.	84,000	1.9	

Activity Area	Description of Activity	Est. Impact by Activity (square feet)	Est. Impact by Activity (acres)	Est. Impact Per Drill Area (acres)
Existing Access Roads (Improvements Required)	Approximately 10,410-feet (2.0 miles) of existing road improvements; Assumes an additional 6-feet of disturbance would be added to the width of the existing roads.	62,460	1.4	N/A
New Access to Oro Cruz Portal	Approximately 9,640 linear feet (1.8 miles) of 15-foot-wide new access road.	144,600	3.3	N/A
Oro Cruz Portal Staging Area	Access, fueling stations, staging and parking to support the exploration of the underground resource accessible through the Oro Cruz Portal. Approximately 2.6-acre staging area in at the entrance of the Oro Cruz Portal.	121,970	2.8	N/A
Total:		895,030	20.5	

See Figure 3 for more detail.

1.5.3 Site Access

As discussed above, existing access roads would be used to the extent possible but some new access roads would be required across BLM land (see Figure 2 and Figure 3). The access routes that would be used are pre-existing BLM-authorized routes. The proposed drill sites and new access roads would be mostly located within previously mined and disturbed areas. Interstate 8 (I-8) and Ogilby Road (State Route 34) and Gold Rock Ranch Road are the primary roads that would be used for access. Drilling equipment would be trucked to one of two truck unloading points, and then would be mobilized to the Drill Areas within the Project Area (Figure 3). Equipment would be unloaded from lowboys onto the existing road at the unloading points and no improvements are needed to accommodate the unloading of equipment.

Access to the drill pads would be gained via existing and new roadways, and via helicopter from the Yuma Airport. The exploration drilling aspects of the Project would require approximately 13,820-linear-feet (2.6 miles) of existing road improvements; approximately 32,740-linear-feet (6.2 miles) of new temporary access road construction; and the construction of up to eight (8) helicopter landing pads (Figure 3). These new access roads would be used strictly for Project support vehicles to access the exploration Drill Areas. Signage would be installed at appropriate ingress/egress points clearly describing the roads as having limited access.

Access to the Oro Cruz Portal would require the construction of 9,640-linear-feet (1.8 miles) of a new 15-foot-wide road. The road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. A gate would be placed across the road accompanied by proper deterrence on either side of the gate (i.e., fence, berm, or large boulder). Activities at the Oro Cruz Portal staging area and access route for underground investigations may extend beyond the 12- to 24-month exploration activities; but reclamation and monitoring of those areas would be completed within 5 years of Project implementation.

Reclamation would be implemented at the 2.8-acre portal staging area and all equipment would be

removed within the 5-year reclamation monitoring period. The portal staging area would be secured with chain link fence and razor wire, and locked during brief periods of non-operation. Roads would also be reclaimed.

Road construction would be conducted using a D8 Dozer (or equivalent). Vegetation disturbance would be avoided to the maximum extent possible. No maintenance is planned for improved existing roads, as they will only be used for 12 to 24 months during active drilling and then would be reclaimed. Improvements would require selected stretches of existing access road to be bladed and cleared of vegetation. Most of the existing roads in the Project Area are about 6-feet wide, so it is assumed that road improvements would require approximately 6-feet of additional width disturbance.

New access roads for exploration drilling would not disrupt the surface except where necessary to gain safe access. These roads would be used temporarily for access to the drill sites and would require a 12-foot width for access of drilling equipment.

Where needed to restrict access to Drill Areas 1 and 6, barriers constructed of onsite materials from areas disturbed as part of the Project would be installed to prevent unauthorized vehicular traffic from interfering with the reclamation of access roads. As appropriate, signs would be posted indicating these roads would be for authorized use only. Berms would be 6-feet in height and placed along new access routes to prevent the public from accessing the Drill Areas. The Project access road is gated at its intersection with Tumco Wash, so that gate will serve as the safety barrier to Drill Areas 2, 3, 4, 5, and 7. Road fill will be stabilized and maintained during and following any construction to prevent any erosion.

1.5.4 Drilling Activity

Sixty-five (65) boreholes would primarily be completed using RC techniques, however a portion of those boreholes might also be completed using core techniques. The boreholes would be placed within seven (7) Drill Areas (see Figure 3). The anticipated maximum depth for the boreholes is approximately 800-feet bgs. Drilling would be accomplished with a track-mounted rig. Any water encountered or generated by drilling will be fully contained within the drill sumps, and the sumps will be backfilled once all water is evaporated.

A drill rig would operate on a 12- or 24-hour-per-day schedule (12 hours per shift) for 12 to 24 months. Once a hole is completed, the drillers would abandon the hole before moving to the next hole. Typically, there would only be one drill rig in operation at a time within the Project Area. The exception would be when RC holes are completed with core tails, at which time there would be two (2) drill rigs on site and in operation at the same time.

Each drill site requires an approximately 60-by-40-foot drill pad that will encompass approximately 0.06 acres of disturbed area (Figure 5B).

1.5.5 Vehicle/Equipment & Maintenance

The proposed exploration activities would be conducted using the following equipment (or similar):

- LF-90D – Boart-Longyear track-mounted drill rig (size = 12 by 20 ft; weight ~18,000 lbs)
- Drill pipe and equipment truck (size = 10 by 35 ft; weight ~35,000 lbs)
- CAT® bulldozer (size = D8, weight ~80,000 lbs)
- Track hoe (weight ~30,000 lbs)

- Hoe ram (weight ~10,000 lbs)
- Portable water tank (2,000 gallon; weight ~400 lbs)
- Above-Ground diesel fuel tank (1,000 gallon; weight ~1,500 lbs)
- Above-Ground JetB fuel Tank (300 gallon; weight ~500 lbs)
- Excavator (Size = 200; weight ~52,000 lbs)
- Water trucks (two 1,000 gallon; weight ~50,000 lbs each)
- Generators associated with drill rig (one 125 kW) and Oro Cruz Portal staging area (two 125 kW; weight ~13,000 lbs each)
- Portable compressors (two 375 Series; weight ~4,500 lbs each)
- Support vehicles (approximately five, one-ton vehicles)

Minor equipment maintenance will be conducted in the field using maintenance and fueling trucks as needed. If equipment requires major repairs, it would be hauled off by the contractor and replaced. Waste oil and engine fluids generated at the operations will be collected and transported by the maintenance truck contractor for offsite disposal by approved methods via properly trained and licensed personnel. Refueling and maintenance will comply with all rules and regulations with regard to implementing proper fueling procedures and spill control measures and employee training. Drip pans or absorbent pads shall be used during fueling and maintenance and absorbent spill cleanup materials and spill kits shall be available and disposed of properly after use.

1.6 Waste Management & Disposal

1.6.1 Mine Wastes, CCR §2772(c)(8)(A)

Mining waste includes the residual of soil, rock, mineral, liquid, vegetation, equipment, machines, tools, or other materials or property directly resulting from, or displaced by, surface mining operations. Mining waste also includes, but is not limited to, soil, waste rock, and overburden, as defined in Section 2732 of the Public Resources Code, and tailings, slag, and other processed waste materials, including materials that are managed at a manufacturing facility where the materials were generated.

Mining wastes associated with this Project include residual solids and desiccated drilling muds generated during the exploration process, and in particular the drilling campaign. Given the nature of the exploratory activities, there would be no significant quantities of mining wastes produced as a result of this Project. Drilling mud (wastewater and fluid) would be stored in sumps (estimated to be 12-feet by 12-feet, and 6-foot deep) constructed adjacent to each drill rig. Other than cuttings and water used to advance the drilling, no other solid or liquid investigative derived wastes (IDW) are anticipated. The IDW will be fully contained within sumps the sumps constructed at each drill site. Specifically, drilling mud encountered would be pumped back out of the drill hole and into the sump, where solids would be allowed to settle out and water allowed to naturally evaporate. The sumps would then be backfilled using the excavated soils once the water is evaporated.

Upon completion of the exploration, the exploratory drill holes would also be sealed and abandoned in compliance with the most current edition of State Water Resources Control Board Bulletin #74-81 and #74-90. Following abandonment of the exploratory boreholes, any remaining drill cuttings will be spread out on the drill pad surfaces, and reseeded in accordance with the revegetation procedures described in Section 2.7.

1.6.2 Hazardous & Solid Waste Management

No hazardous waste is expected to be generated in connection with this Project, and there will be no onsite disposal of hazardous materials. Hazardous substances used in the course of the Project, such as fuels and lubricants would be stored at the drill sites in accordance with manufacture prescribed instructions and applicable regulations. During drilling operations, the drill rig would be parked on top of plastic sheeting overlain by absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”) to prevent incidental releases to the ground surface.

Any trash generated by the contractors would be collected in appropriate containers and removed as required for accordance with applicable laws and regulations. No refuse would be disposed of onsite.

1.7 Water Resources

1.7.1 Fresh Water

Surface and groundwater within the Project Area would not be used as a source for water for the drilling. Rather, water for drilling and dust suppression would be provided by the drilling company via a mobile water truck. Specifically, the water would be procured from Gold Rock Ranch and/or a local water purveyor. It is anticipated that two (2) 1,000-gallon water trucks would be required onsite each day. Additionally, a 2,000-gallon portable water storage tank would be kept onsite for drilling and dust suppression.

Water that contacts the Project Area, either from application for dust suppression or as a result of a precipitation event, will be contained onsite and either naturally evaporate or infiltrate into the ground. No permanent waterways, streams, or diversion channels exist within or adjacent to the Project Area, and none are proposed as a result of site development. There would be no discharges outside the drill sites or in surface tributaries, and no pollutants would be discharged. Activities water management would comply with applicable county, state, and federal laws. Additionally, as discussed in Section 1.4.4, the Project operations would be conducted pursuant to the State of California CGP for stormwater discharges.

1.7.2 Wastewater

No wastewater will be generated during Project operations, as no onsite processing will occur within the site. All rock products and waste rock generated during Project operations would be naturally occurring rock. Chemicals or other hazardous materials will not be utilized during drilling activities.

Water used during the drilling process would come into contact with bentonite drilling mud and ground rock at depth. It would be managed and handled after it is pumped back out of the hole by evaporation and by allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would be backfilled after evaporation. There would be no discharges outside the drill site or in surface tributaries, and no pollutants would be discharged in accordance with CWA requirements. As discussed above, activities would be conducted in compliance with applicable county, state, and federal laws, including requirements specific to California’s CGP for stormwater discharges, if deemed necessary by BLM and/or the County.

A mobile water truck will be utilized onsite for dust suppression, and applied water will either naturally evaporate or infiltrate into the ground.

If needed, temporary portable toilets may be placed within the Project Area. If installed, portable toilet

facilities provided for the duration of the Project would be maintained by contractors and accumulated human waste would periodically be collected and transported to an approved disposal site. No waste would be buried on site. Operations in the Project Area will not produce any industrial or domestic wastewater discharges onsite.

1.8 Spill Prevention & Cleanup

To prevent the spread of any accidental leakage in storage, fuel and lubricant containers would be stored in shallow (4-inch depth), 10-foot by 10-foot lined secondary containment areas at each drill site and in an approximately 6-inch deep, 20-foot by 40-foot lined secondary containment area at the fueling stations. During drilling operations, the drill rig would be parked on top of plastic sheeting. A spill prevention kit would be stored on site consisting of an oil absorbent mat material (i.e., PIG® adsorbent mat pad) and absorbent clay or shale (i.e., Oil-Dri, or “kitty litter”). The volume of absorbent that would be kept onsite for potential spills is estimated to be 50 gallons at each active drill site and 100 gallons at the fueling stations. Since there will be, at most, two (2) active drill sites at one time the estimated volume of absorbent onsite is 200 gallons.

A Spill Contingency Plan would be prepared to describe the procedures followed by SMP and their contractors to prevent, control, and mitigate releases of oil and petroleum products to the environment within the Project Area. The following proposed spill prevention, control and countermeasures (SPCC) would be implemented:

- Fueling would be performed on a 20-foot by 40-foot plastic sheeting over an approximately 6-inch deep reservoir. The fueling areas would be sloped gently to one corner with a small sump to contain any accidental releases of fuel.
- Equipment servicing would be performed within the fueling areas or on plastic sheeting within the drill sites.
- A standard procedure for fueling and servicing would be initiated and performed at the designated fueling stations and drill sites; however, equipment may need to be serviced at times elsewhere within the Project Area, and spill protection measures would be implemented.
- Diesel fuel is a major consumable for the mine and drilling equipment. Diesel fuel is available from local suppliers and would be received in tank trucks. The Project would receive and unload diesel to the onsite storage tank, using best practices for fuel transfer as described below.
- Diesel fuel would be offloaded using drip-less connections in a contained area to eliminate spillage contamination. The off-loading sites would be designed to drain into the main storage site containment and have a spill response kit containing booms, and clean-up materials to ensure that any off-containment spillage is immediately contained and cleaned.
- A small spill response trailer would be maintained in the Project Area to clean-up any spills.
- Inspections of fuel valves and other inlets and outlets as well as secondary containment would be made daily.
- All site personnel that would be involved in fuel-handling would be trained in the operation and maintenance of equipment to prevent discharges.
- The 1,000-gallon diesel fuel tank and 300-gallon JetB fuel tank would be secured and locked during times when SMP personnel and contractors are not on site.

- Berms and protective barriers would be placed around the fuel tanks to prevent accidental or malicious damage by vehicles or equipment.

1.9 Public Safety & Fire Prevention

During all operations, SMP will maintain equipment and conduct activities in a safe and orderly manner. Due to the isolated nature and remote locations of the proposed access roads and drill sites, public security and safety are not a concern. As needed, certain access roads may be gated and/or locked to prevent public access. For example, the Oro Cruz Portal staging area (Figure 5A) would be secured with chain link fence and razor wire, and locked with warning signs during brief periods of non-operation. All employees and contractors will be required to complete a safety training prior to commencement of operations.

SMP would implement site-specific fire prevention/protection actions. At a minimum these actions would include designating Project fire coordinators, providing adequate fire suppression equipment (including in vehicles), and establishing emergency response information relevant to the Project Area.

SMP would have a 2,000-gallon portable water storage tank onsite for dust suppression that would also be available to assist in firefighting operations. SMP would ensure that all mobile equipment be equipped with fire extinguishers, hand tools, and first aid kits.

In the event of an initial, small fire that does not create enough smoke, flame, and heat to prevent fighting the fire using a hand-held fire extinguisher or a small water hose, and providing no one would be endangered, SMP personnel and/or contractors would make a reasonable effort to extinguish the fire. If two or more people are present, one would fight the fire while one reports to 911 the size, type, and location in the event the fire grows out of control. Personnel would not directly engage any fire which is beyond the incipient stage (i.e., a fire which has progressed to the point it has substantially involved any structure/equipment).

Planning and prevention of fires is also managed through the appropriate handling and storage of fuels, inspections and recordkeeping, spill prevention and response procedures, proper use of safety equipment, resource management training, and fire prevention training.

1.10 Erosion and Sediment Control, CCR §3503(a), (e), §3706

Prior to commencement of operations, site-specific stormwater and erosion control BMP's will be implemented on an as needed basis. BMPs to be implemented onsite may include, but are not limited to, the following: specific prohibitions, effluent limitations, potential contaminant source identification, practices to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general storm water BMPs, training, record keeping, sampling procedures and a description of the monitoring program.

Table 5 summarizes the potential erosion control BMPs that would be implemented as part of the Project.

Table 5: Summary of Erosion BMPs

Industrial Activity/Material	Potential Pollutants	BMPs Implemented	Required Equipment & Tools
Site Preparation and/or Exploratory Drilling	Sediment	Erosion control; Sediment control; Stormwater containment.	Silt fencing and fiber rolls. Mobile equipment for berm maintenance as needed.
	Dust	Wind erosion control; Erosion control; Sediment control; Tracking control.	Water truck; Soil binders.
Equipment and Vehicle Maintenance	Oil & Grease Hydrocarbons Gross Pollutants Trace Metals	Good housekeeping; Spill prevention & maintenance; Interior berms as needed to direct surface flows to pit; Secondary containment.	Covered trash bin; Spill kit; Bulldozer for berm maintenance.

No stockpiling of material is anticipated other than for temporary storage as may be necessary. For example, temporary stockpiles may be formed when developing the access roads and/or individual drill pads. If needed, additional BMPs (e.g., berms, sandbags, fiber rolls, or silt fencing, etc.) will be installed to ensure sediment does not inadvertently erode into adjacent areas during a large storm event.

Due to the existing topography and the proposed design of the access roads and drill pads, stormwater runoff and sediment erosion from the Project Area is considered unlikely. Development of the Project would not add any paving or impervious surface areas. Due to site topography and design, and through the implementation of BMPs, the chances of discharge, erosion, and/or sedimentation from the Project Area that could adversely impact adjacent properties is considered very low.

1.11 Dust Control

As discussed in Section 1.4.4, dust will be controlled by water spraying the access roads by the water truck at the start of the operating day as needed to control visible dust. All equipment is required to meet current Federal and State air quality standards including the federal and state Clean Air Acts, and rules and regulations of the California Air Resources Board (CARB) and the ICAPCD.

1.12 Material Processing

No onsite material processing would occur within the Project Area.

1.13 Blasting

Due to the nature of the operations, blasting is not required and will not be conducted onsite. Therefore, no explosives will be stored and/or utilized within the Project Area.

2.0 RECLAMATION PLAN

The following section has been prepared and organized pursuant to the requirements outlined within the Surface Mining and Reclamation Act (SMARA) and the County's requirements. The California Code of Regulations (CCR) citations presented within each titled section reference specific SMARA statutes applicable to each section (also see the "Table of Compliance for SMARA Requirements").

The intent of SMARA is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that:

- (a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses;
- (b) The production and conservation of aggregates are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and
- (c) Residual hazards to the public health and safety are eliminated" (Section 2712).

Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article. The standards shall apply to each surface mining operation to the extent that:

- They are consistent with required mitigation identified in conformance with the California Environmental Quality Act (CEQA); and
- They are consistent with the planned or actual subsequent use or uses of the site" (Section 2712).

Since the Project would entail surface disturbance beyond 1-acre, in accordance with SMARA this Reclamation Plan has been prepared which details the reclamation activities and applicable performance standards. This Reclamation Plan has been designed to address the scope of exploratory work, as described below.

2.1 Existing & Proposed Land Uses, CCR §2772 (c)(7), §3502 (b)(1)

As shown on Figure 1 and discussed in Section 1.2, the Project Area is located within the Cargo Muchacho Mountains, to the north and south of the Tumco Wash. Existing land uses within and near the Project Area can generally be characterized as undeveloped barren desert land, low-lying desert foothills and dry alluvial basins that have been previously disturbed by past mining activities.

There are no streams or riparian areas located within the Project Area. Other than miscellaneous structures (e.g., material stockpiles, berms, etc.) and existing access roads (that would be improved) associated with the historical mining operations, the existing Project Area has few features and no existing structures.

The entirety of the Project Area and adjacent areas are located on BLM land, and currently have a County land use designation of "Recreation/Open Space". Please see Figure 1 and Figure 2, which displays the Project Area and surrounding setting, and Figure 3 and Figure 4 which shows the operations/exploration site plan.

Once exploratory drilling operations are complete, SMP will reclaim the Project Area to a state readily adaptable for land uses consistent with mining, recreational uses, and open space. Reclamation of the

Project Area has been designed to complement the adjacent land uses. Please see Figure 4 which shows the layout/design of the reclamation Project Area.

2.2 Public Access, Visibility & Health/Safety, CCR §3502 (b)(2)

As discussed above, the Project Area is located on BLM land within an undeveloped desert area of unincorporated Imperial County, and is generally isolated from public view and/or access. The existing topography immediately surrounding the Project Area is generally barren and flat desert areas, with more mountainous areas (i.e., Cargo Muchacho Mountains) to the north, east and south.

The surrounding topography generally obscures views of the Project Area from most nearby public viewpoints. Views of the Project Area are generally limited to the publicly accessible areas and roadways (e.g., Gold Rock Ranch Road) located adjacent to the perimeter of the site. Gold Rock Ranch Road will be gated at the intersection with Tumco Wash, and this gate will serve as the safety barrier to Drill Areas 2, 3, 4, 5, and 7. Additionally, planned safety barriers (or berms) may also be installed in this area to discourage public access. As needed, certain safety features (e.g., berms, fences, signs, etc.) may remain in place during and after site reclamation. Please see Section 1.5.3 for more detail.

Exploration and reclamation activities will comply with all Federal Mine Safety and Health Administration (MSHA) and California Occupational Safety and Health Administration (Cal/OSHA) mine safety regulations concerning operating standards and operation of equipment.

Workers, including contract labor, will be trained in mine safety and first aid. Refresher courses will be conducted periodically in accordance with applicable regulations.

Onsite operations personnel will carry portable cellular phones and will have access to a satellite phone (for instances where cell tower services is poor) for offsite communications and for safety purposes. All visitors, outside vendors, and truck drivers will be required to check-in and check-out with the appropriate onsite manager. Conditions affecting safety will be continually monitored by onsite operations personnel. During operations and until reclamation of the Project Area is complete, the general public will not be admitted to these lands without prior permission of the BLM and SMP's onsite manager.

2.2.1 Berms and Screens

Barriers (or berms) would be installed to prevent unauthorized vehicular traffic and signs would be posted indicating these roads would be for authorized use only. Where needed to restrict access to Drill Areas 1 and 6, barriers constructed of onsite materials from areas disturbed as part of the Project would be installed to prevent unauthorized vehicular traffic from interfering with the reclamation of access roads. Earthen berms would be approximately 6-feet in height and placed along new access routes, as needed, to prevent the public from accessing the Project Areas.

2.2.2 Fencing

As discussed above, access to the Project Area, specifically the Oro Cruz Portal, would be provided by a new, 15-foot-wide access road as shown on Figure 3. The road would be secured from unauthorized access for the duration of activity at the portal staging area while assuring access by BLM staff. The portal staging area would be secured with chain link fence and razor wire and locked during brief periods of non-operation. As discussed above, activities at the Oro Cruz Portal staging area and access route for underground investigations may extend beyond the 12- to 24-month exploration activities; but

reclamation and monitoring of those areas would be completed within 5 years of Project implementation.

Other than the primary access road, no other fencing and/or gating within the Project Area is proposed. If safety becomes a concern, additional private access roads controlled by SMP may be gated and/or locked to prevent inadvertent public access. Additionally, as needed signs may be placed at the access roads and on perimeter fencing as necessary to identify the operations (in English and Spanish, as necessary), to ensure public safety and to prevent inadvertent public access to active mining areas.

2.2.3 Lighting

Project operations and reclamation activities would generally happen during daylight hours, with the exception of drilling operations that would occur up to 24-hours per day. Specifically, a drill rig would operate on a 12- or 24-hour-per-day schedule (12 hours per shift) for approximately 4 months.

Lighting for nighttime operations and security will be provided as needed. Lighting within the Project Area will be installed in a manner to minimize unnecessary glare onto adjacent areas. The lights will comply with all applicable federal, state, and county standards and industry practices. High pressure sodium and/or cut-off fixtures (or equivalent International Dark-Sky Association [IDA]-approved fixtures) will be used instead of mercury-vapor fixtures for any required nighttime lighting. The lighting will also be designed to confine illumination to the site and/or to working areas that do not include light-sensitive uses.

2.3 Vegetation, CCR §3502 (b)(1), §3503 (c), §3703

2.3.1 Existing Vegetation

As described in Section 1.5, the exploration activities will utilize, to the extent feasible, existing roads to access the Project site. As needed, new roads will be constructed along with the drill pads, resulting in an estimated 20.5 acres of new Project-related disturbance. These new areas are included as part of this Reclamation Plan, and therefore will be revegetated in accordance with the plan described below.

As previously discussed, the Project Area is a common desert habitat. It is an arid site with some dissected alluvial piedmont surfaces covered with partial desert pavement. Surfaces are generally sparsely vegetated, with minimal plant cover and thin, poorly developed soil profiles.

Vegetation in the Project Area is low desert scrub typical of the high temperature region of southeastern California. In general, vegetation is sparse in both the upland and desert wash habitats. The uplands consist of a very low-density shrub community dominated by creosote and brittlebush. In addition, large portions of the Project Area consist of disturbed habitats dominated by non-native annual plants. The desert wash habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo. In summation, vegetation in the Project Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats.

For the purposes of vegetation mapping, an analysis area that encompasses the proposed disturbance on seven (7) drill areas and associated access roads was defined. A total of 37 plant species were identified during field surveys, which are included listed in the Revegetation Plan provide as Appendix A.

As summarized below, three (3) California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7.

Brassica (nigra) and other mustards semi-natural stands: *Brassica (nigra)* and other mustards semi-natural stands vegetation category occupies approximately 18% of the Analysis Area and 24% of the Project Area (WestLand Resources, Inc., 2021). This vegetation category corresponds with disturbed and barren areas. Although the named dominant species, black mustard (*Brassica nigra*), was not observed, Saharan mustard (*Brassica tourneforti*), a closely related non-native mustard was often present in both naturally disturbed areas including wash scour and human-disturbed areas such as roads, camp sites, and rock waste piles. This natural community is not classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Parkinsonia florida – Olneya tesota alliance: *Parkinsonia florida* – *Olneya tesota* alliance occupies approximately 2% of the Analysis Area and 2% of the Project Area (WestLand Resources, Inc., 2021). The vegetation category is primarily restricted to washes, drainages and narrow canyons. Besides the named alliance’s dominant plants, blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), other commonly occurring plants include sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo (*Fouquieria splendens*) and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Larrea tridentate – Encelia farinosa alliance: *Larrea tridentata* – *Encelia farinosa* alliance occupies approximately 79% of the Analysis Area and 74% of the Project Area and occurs in a variety of topographic settings (WestLand Resources, Inc., 2021). Besides the named alliance’s dominant plants, creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*), other commonly occurring plants include ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobrush (*Ambrosia dumosa*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

2.3.2 Special-Status Plant Species, CCR §3503(c)

A screening analysis was conducted to determine the potential for special status plant species to occur in the vicinity of the Project Area. The following were analyzed:

1. Plant species designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system.
2. Plant species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
3. Plant species identified for analysis under the California Environmental Quality Act (CEQA), including Plants designated as special-status by the California Native Plant Society (CNPS).

Three (3) special status plant species, Munz cholla (*Cylindropuntia munzii*), Flat-seeded spurge (*Euphorbia platysperma*), and Pink fairy-duster (*Calliandra erophylla*), were determined to have a possible presence or a high potential to occur in the vicinity of the Project Area. Specifically, Munz Cholla and Flat-seeded spurge were found to be “possible” to occur within the Project Area, and the Pink fairy-duster was determined to have a “high” possibility of occurrence.

2.4 Wildlife, CCR §3503 (c), §3703

2.4.1 Existing Wildlife Species, CCR §3703

As discussed in Section 1.4.6, WestLand determined there was a potential for various reptiles, birds, and mammal species to be found within the San Bernardino County borrow site area. Specifically, during field surveys conducted in March 2021 a total of 26 wildlife species were observed, as summarized in Table 6 below.

Table 6: Wildlife Species Observed in the Project Area

Common Name	Scientific Name
Black-throated sparrow	<i>Amphispiza bilineata</i>
verdin	<i>Auriparus flaviceps</i>
great horned owl	<i>Bubo virginianus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
Costa’s hummingbird	<i>Calypte costae</i>
turkey vulture	<i>Cathartes aura</i>
common raven	<i>Corvus corax</i>
ladder-backed woodpecker	<i>Dryobates scalaris</i>
burro	<i>Equus asinus</i>
prairie falcon	<i>Falco mexicanus</i>
house finch	<i>Haemorhous mexicanus</i>
loggerhead shrike	<i>Lanius ludovicianus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
canyon towhee	<i>Meloxone fusca</i>
northern mockingbird	<i>Mimus polyglottos</i>
Unknown Myotis	<i>Myotis spp.</i>
neotoma	<i>Neotoma spp.</i>
ground squirrel	<i>Osteospermophilus spp.</i>
Black-tailed gnatcatcher	<i>Poliptila melanura</i>
rock wren	<i>Salpinctes obsuoletus</i>
Say’s phoebe	<i>Sayornis saya</i>
squirrel	<i>Scuridate spp.</i>
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
cottontail	<i>Sylvilagus spp.</i>
side-blotched lizard	<i>Uta spp.</i>
fox	<i>Vulpes spp.</i>

2.4.2 Special-Status Wildlife Species, CCR §3703(c)

A screening analysis was conducted to determine the potential for special status wildlife species to occur in the vicinity of the Project Area. The following were analyzed:

1. Species and critical habitat designated by the USFWS as Endangered, Threatened, Proposed for listing, or Candidate for listing under the ESA, as identified by the IPaC system.
2. Species protected under the Bald and Golden Eagle Protection Act (BGEPA).
3. Species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
4. Species identified for analysis under the CEQA, including California Department of Fish and Wildlife (CDFW) Species of Special Concern; Plants designated as USFWS Birds of Conservation

Concern; CDFW special-status invertebrates; and Species of bat listed as high and medium priority by the Western Bat Working Group.

One (1) ESA listed species, the threatened Mohave Desert tortoise (*Gopherus agassizii*), was determined to be present the vicinity of the Project Area (see Table 6). No designated or proposed critical habitat occurs within the Project Area.

Three (3) bats, pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and greater western mastiff bat (*Eumops perotis californicus*), that are listed as BLM Sensitive and State-Ranked in the California Natural Diversity Database (CNDDDB) were determined to be present in the vicinity of the Project Area; and 2 bats, small-footed myotis (*Myotis ciliolabrum*) and cave myotis (*Myotis velifer*), that are also listed as BLM Sensitive and State-Ranked in the CNDDDB were determined to have a possible presence in the vicinity of the Project Area.

Two (2) birds, Prairie falcon (*Falco mexicanus*) and Black-tailed gnatcatcher (*Polioptila melanura*) that are State-Ranked in the CNDDDB were determined to have a high potential to occur in the vicinity of the Project Area.

One (1) lizard, Colorado Desert fringe-toed lizard (*Uma notata*), that is listed as BLM Sensitive and State-Ranked in the CNDDDB was determined to be present in the vicinity of the Project Area.

Please see the *Biological Resources Assessment* prepared by WestLand (WestLand Resources, Inc., 2021) in Appendix B for additional rationale in support of these findings.

Due to the limited scope and duration of the Project, it is recommended that potential impacts to sensitive species habitats be avoided using measures identified below. These measures will be employed during exploratory drilling operations and reclamation activities:

1. Prior to Project activities, pre-construction tortoise surveys shall be conducted by a BLM-approved Qualified Biologist within the area to be disturbed plus a 500-foot buffer, focusing on areas that could provide suitable burrow or cover sites, such as dry washes with caliche. A subsequent survey shall be conducted by a Qualified Biologist within 24 hours of the commencement of surface disturbance activities (should Project activities occur between March 15 and November 1). Burrows will be flagged such that they will be avoided by Project activities.
2. A BLM-Qualified Biologist will be onsite during the initial activities or mobilization (should Project activities occur between March 15 and November 1).
3. All surface disturbing activity shall be limited to the land area essential for the Project. In determining these limits, consideration shall be given to topography, public health and safety, placement of facilities, and other limiting factors. Work area boundaries shall be appropriately marked to minimize disturbance. All workers shall limit their activities and vehicles to the areas marked. All workers shall be trained to recognize work area markers and to understand equipment movement restrictions.
4. All workers, including all construction and drilling contractor personnel, and others who implement Project activities would be given special instruction, which would include training on distribution, general behavior and ecology, protection afforded by State and Federal endangered species acts (including prohibitions and penalties), and procedures for reporting encounters, and the importance of following the protection measures. The education program may consist of a

class or video presented by a BLM-approved Qualified Biologist. The presentation to be used would be reviewed and approved by a BLM biologist.

5. All personnel would be notified that the desert tortoise is a species listed as threatened under the Endangered Species Act and protected by State and Federal law. Fines can be as high as \$50,000 and/or one year in prison for violations.
6. Personnel would be notified that desert tortoises are not to be handled, fed, or harassed in any way. If encountered, tortoises will be allowed space and time to move from the area on their own volition.
7. Personnel who attend tortoise training will sign an attendance sheet, which would be submitted to the BLM for their information. Should BLM staff inspect the site during construction activities, workers onsite should be able to provide proof of tortoise training (a hard hat sticker is recommended for this purpose).
8. SMP would designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be onsite during all Project activities (should Project activities occur between March 15 and November 1). The FCR would have the authority to halt Project activities that are in violation of the stipulations. The FCR would have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of the project proponent, or a BLM-approved Qualified Biologist. Any incident occurring during project activities which is considered by the biological monitor or FCR to be in non-compliance with the mitigation plan shall be documented immediately by the FCR. The FCR shall ensure that appropriate corrective action is taken. Corrective actions shall be documented by the monitor. The following incidents shall require immediate cessation of the construction activities causing the incident, including:
 - a. imminent threat of injury or death to a desert tortoise;
 - b. unauthorized handling of a desert tortoise, regardless of intent;
 - c. operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads, and
 - d. conducting any construction activity without a biological monitor where one is required.
9. If a tortoise is encountered during construction activities, work would be halted in proximity to the tortoise until an on-call BLM-approved Qualified Biologist can move the animal from harm's way, or until the desert tortoise leaves of its own accord.
10. Where possible, motor vehicle access would be limited to maintained roads and designated routes. All vehicle tracks that might encourage public use would be reclaimed after Project-specific use. Barriers would be installed to prevent unauthorized vehicular traffic and signs would be posted indicating these roads would be for authorized use only.
11. The following requirements apply to vehicle use:
 - a. Speed Limits: Vehicle speed within Project area, along right-of-way maintenance roads and on routes designated for limited use shall not exceed 20 miles per hour. Speed limits shall be clearly marked by the proponent, and workers shall be made aware of these limits.
 - b. Tortoises Under Vehicles: Vehicles parked in desert tortoise habitat would be inspected immediately prior to being moved. The practice of placing an orange cone by the driver side door will be used as a reminder to check for tortoise before re-entering and moving

the vehicle. If a tortoise is found beneath a vehicle, a BLM-approved Qualified Biologist would be contacted to move the animal from harm's way, or the vehicle shall not be moved until the desert tortoise leaves of its own accord.

12. Access roadside signs depicting a picture of desert tortoise will be posted to remind workers of the potential presence of tortoise within the Project Area.
13. Project maintenance and construction, stockpiles of excavated materials, equipment storage, and vehicle parking shall be limited to existing disturbed areas wherever possible. Should use of existing disturbed areas prove infeasible, any new disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows or vegetation, public health and safety, and other limiting factors. Special habitat features, particularly tortoise burrows, shall be flagged by the Qualified Biologist so that they may be avoided by installation equipment and during placement of poles and anchors.
14. All trash and food items generated by construction and maintenance activities shall be promptly contained and regularly removed from the project site to reduce the attractiveness of the area to common ravens and other desert predators. Portable toilets shall be provided on site if appropriate.
15. Feeding of wildlife and/or leaving of food or trash as an attractive nuisance to wildlife is prohibited. Particular attention will be paid to "micro-trash" (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny). All trash and food items shall be promptly contained within closed, wildlife-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other predators.
16. Domestic pets are prohibited on site. This prohibition does not apply to the use of domestic animals that may be used to aid in official and approved monitoring procedures/protocols, or service animals under Titles II and III of the Americans with Disabilities Act.
17. Injury: Should any desert tortoise be injured or killed, all activities shall be halted, and the Qualified Biologist immediately contacted. The biologist shall have the responsibility for determining whether the animal should be transported to a veterinarian for care, which is paid for by the project proponent, if involved. If the animal recovers, USFWS is to be contacted to determine the final disposition of the animal; few injured desert tortoises are returned to the wild.

2.5 Reclamation Specifics & Schedule, CCR §2772 (c)(8)

2.5.1 Reclamation Slopes, CCR §3502 (b)(3), §3704

Because the Project only involves exploratory drilling and ancillary operations (e.g., improving/constructing access roads, installing helipads and drill pads, constructing staging areas, etc.), no significant slopes will be created. Therefore, significant recontouring and/or revegetating of slopes is not anticipated. Similarly, since there will be no mining spoils associated with the drilling campaign, other than nominal quantities of drill cuttings, there will be no waste piles that would need to be knocked down, re-sloped and revegetated. Following abandonment of the exploratory boreholes, any remaining drill cuttings will be spread out on the drill pad surfaces, and reseeded in accordance with the revegetation plan provided herein.

Where needed, SMP will flatten all slopes and floors using mobile equipment, to ensure no slopes exceed a 2H:1V (horizontal to vertical) angle in accordance with SMARA performance standards (Section 3704). Proposed revegetation in applicable portions of the Project Area will also help further stabilize any regraded areas/slopes and prevent erosion once roots are established. See Section 1.4.4 above for more detail.

2.5.2 Reclamation Backfilling, CCR §3502 (b)(3), (4), §3704

Because the Project only entails exploratory drilling, no mining excavation will occur and thus there will be no need for significant backfilling of materials.

As previously mentioned in Section 1.4.4, soils development in the Project Area is generally poor, with profiles tending to be very thin to non-existent in those areas where the Project will result in ground disturbance. The potential to salvage topsoil/subsoil for use as a growth medium for revegetation is limited. Consequently, topsoil/and subsoil will be salvaged where feasible by pushing the material along the edge of the drill pads and along the sides of the new access roads. Once the drilling campaign is complete, the stored topsoil/subsoil will be spread out and reseeded.

The drilling campaign will also utilize mud sumps to house the drilling fluids. These mud sumps will be dug during development of the drill pads, or as part of the drill rig set-up. The excavated spoils will be stored along the edges of the pads and then backfilled into the excavated pits once drilling is complete and equipment demobilization occurs. These backfilled materials and any topsoil/subsoil that is salvaged will then be reseeded as part of the overall revegetation efforts.

2.5.3 Proposed Time Schedule of Reclamation, CCR §2772 (c)(6)

As discussed in Section 1.3.3, the Project is proposed to begin upon completion of all BLM and County coordination, permitting and bonding. The Project mobilization, road construction, drilling, and borehole abandonment (i.e., exploratory operations) would be completed within approximately 12 to 24 months. Project reclamation would be completed concurrently for exploration drilling activities, and monitoring for the success of reclamation of those areas would be completed within five (5) years of Project implementation. As discussed previously, while access to and activity at the Oro Cruz Portal within Drill Area 1 may extend beyond the 12- to 24- month exploration activities, reclamation and monitoring of those areas would also be completed within 5 years of Project implementation.

Either during development of the drill pads, or as equipment is being set-up, the mud pits (i.e., sumps) for the drilling fluids will be constructed. These sumps will be approximately 12-feet by 12-feet and 6-feet deep earthen basins used to house the drilling fluids. The excavated materials removed to form the sumps will be placed at the sides of the pads and stored until backfilled into the pits as part of reclamation.

Once drilling is complete, each exploratory borehole will be abandoned in accordance with County drill permit conditions and applicable State standards. The mud pits will be allowed to evaporate and then the stored excavated materials will be reintroduced into the pits, followed by pushing any salvaged topsoil/subsoils. Once each pad has been graded and contoured, they will be reseeded using the seed mix described in Section 2.6.3 below.

The new roads constructed as part of this Project will also be reclaimed (except for the new road to the underground portal) by placing recovered topsoil/subsoil stored along the roadway edges, and blading the surfaces prior to revegetating. The same seed mix that will be applied to the drill pads will be used for

the roads. Pre-existing roads will be maintained in their current condition and status and will not be reclaimed under this Reclamation Plan, since they represent pre-existing disturbance and will continue to be used in the future.

After the drill pads and roads are prepared, these areas will be revegetated using the prescribed seed mix. Following reseeding, a qualified biologist will periodically monitor the revegetation and evaluate the extent to which plant establishment is occurring. Given the unique and quite arid environment of the Project site, while a 2-year duration is planned for the revegetation monitoring, it is possible that it could take additional time for the plant succession to fully establish.

Project reclamation for drilling activities and monitoring for the success of reclamation would be completed within 5 years of Project implementation.

2.6 Revegetation Plan, CCR §3503(g), §3705

The revegetation plan is based on those portions of the Project Area proposed to be reclaimed to open space. A detailed revegetation plan was prepared for the Project by Westland Resources, Inc. (2021), which is incorporated herein by reference, and included as Appendix A.

For those areas to be reclaimed for future mining and/or recreational uses, revegetation may not be feasible and/or appropriate. See Figure 6 which shows the Project Areas to be revegetated. The proposed revegetation seed mix is based, in part, on the species list described in Section 2.3.1, with the objective to establish a vegetative palette that is generally similar to the observed plant communities in the Project area.

Following completion of exploratory drilling, equipment demobilization and surface preparation of the roads and drill pads, the following typical sequence of revegetation activities will be undertaken:

- Installation of erosion control devices, such as waddles, where necessary;
- Application of seed mix either by hydroseeding or mechanical broadcasting; and,
- Maintenance and monitoring.

Revegetation will be achieved by using a combination of site preparations, planting activities, and ongoing maintenance procedures.

2.6.1 Revegetation Personnel & Methods

Revegetation activities will be conducted under the supervision of a qualified biologist and/or revegetation specialist. The qualified biologist/revegetation specialist will work closely with SMP's operations personnel to assure that revegetation is accomplished according to applicable plans (e.g., County Conditions of Approval, Reclamation Plan, etc.). Any deviation from the applicable revegetation plans will be approved by the qualified biologist/revegetation specialist prior to implementation. The qualified biologist/revegetation specialist will be onsite during initiation of each revegetation task (e.g., site preparation, plant installation, seeding, etc.), and work will be monitored on a regular basis. The qualified biologist/revegetation specialist will be required to keep activity logs to document the work accomplished and any issues encountered. The qualified biologist/revegetation specialist will also prepare field memos to document the progress of revegetation.

2.6.2 Site Preparation for Revegetation, CCR §3503(f), §3711

Prior to application of the seed mix, the final contours, hydrology, and soils composition of the revegetation areas will be reviewed by a qualified biologist/revegetation specialist to determine the optimal broadcast rates and make any appropriate modifications to the overall revegetation plan.

Areas to be revegetated will be prepared as follows:

- Vegetation, trash, debris, and weeds will be cleared. All weeds will be removed from the area and properly disposed of offsite.
- Any eroded areas will be repaired uniformly without leaving pits, holes, or depressions that would potentially prohibit plant growth.
- Ripping compacted areas to a depth of one foot and left in a textured or rough condition with shallow rills and furrows to create optimal conditions for revegetation;
- Replanting any salvaged plants on the pads and roads in a random pattern;
- Broadcast seed with a native plant seed mix at a rate recommended by the BLM and County which will include a mixture of shrubs, native grasses, and annuals; and
- Hand-rake or use a chain attached to a small tractor to cover the seeds with any topsoil to protect the seeds from desiccation and predation.

2.6.3 Seed Mixes

The seed mix described below will be applied to the areas indicated on Figure 6. Research has established that plant materials genetically adapted to the particular environmental conditions of a given site are critical to the success of revegetation. Therefore, seeds will be selected from a local vendor, if available, or from other sources as recommended by the qualified biologist/revegetation specialist.

Revegetation would require site-appropriate, BLM-approved native seed mixtures. A diverse native plant community would be targeted through the definition of seed mixtures and application rates. Just prior to seeding, the qualified biologist/revegetation specialist will determine the final species type and application rates based on the amount and quality of the seeds that are sourced for the Project. Detailed information of the type and amount of seed planted will be recorded. Please see the Revegetation Plan in Appendix A for additional detail.

The proposed native seed mixture will consist of the following: creosotebush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), desert spineflower (*Geraea canescens*), turtleback (*Psathyrotes ramosissima*), forget-me-not (*Cryptantha* spp.), and hairy prairie clover (*Dalea mollis*). Seeds will be purchased and mixed in equal quantities and will be hand broadcasted at approximately 10 pounds per acre (Table 7). If any part of the proposed seed mixture is not commercially available at the time of purchase, BLM will be consulted to identify appropriate and available replacements for the seed mixture.

Table 7: Revegetation Seed Mixture

Common Name	Scientific Name	Pounds/Acre
creosotebush	Larrea tridentata	3.0
burrobush	Ambrosia dumosa	3.0
brittlebush	Encelia farinosa	1.5
desert spineflower	Geraea canescens	1.0
turtleback	Psathyrotes ramosissima	0.5
forget-me-not	Cryptantha spp.	0.5
hairy prairie clover	Dalea mollis	0.5
Total:		10.0

Seeds will be purchased and mixed in equal quantities and will be hand broadcasted at approximately 10 pounds per acre. The seed mix would be designed to meet the following criteria:

- Native non-invasive species that have a high compatibility with the existing landscape;
- Species and plant type diversity to promote a sustainable vegetative cover throughout the seasonal changes and other climate related variances; and
- Species and plant type diversity to promote a variety of germination periods and seasonal growth.

2.6.4 Control of Weeds & Non-Native Vegetation

The predominance of exotic, invasive weed species throughout California has presented a formidable challenge to most revegetation projects. Weed species are opportunistic and have mechanisms for dispersal and establishment that can eventually lead to displacement of native species. To ensure that weed species competition is controlled, the Project site areas will be inspected by the qualified biologist/revegetation specialist prior to revegetation implementation. The qualified biologist/revegetation specialist will also determine the most effective treatments for control of invasive species. If weed control activities are necessary, they could include a combination of treatments such as hand removal, and soil solarization. Herbicides shall not be utilized to control weeds or invasive species.

Non-native invasive plants that threaten California’s wildlands have been categorized by the California Invasive Plant Council (Cal-IPC). Invasive plants that have been classified by Cal-IPC as “High” (severe ecological impacts on physical processes, plant and animal communities, and vegetation structure) or “Moderate” (substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure) in terms of ecological threat will be controlled as necessary within the revegetation areas for up to three (3) years in order to prevent aggressive weeds from out-competing native plant species for resources (e.g., space, water, nutrients, and light). These invasive weeds will be removed manually by hand, as needed.

Prior to initiation of revegetation efforts, the biologist will consult the most recent Cal-IPC list, and a list of specific species to be controlled under this Reclamation Plan will be developed. Additional species may be added to the list based on actual conditions and the recommendation of the qualified biologist/revegetation specialist.

2.6.5 Revegetation Success Criteria (Performance Standards), CCR §3705(m)

The basic goal of revegetation is to re-establish self-sustaining native plant communities within the disturbed areas. California Code of Regulations (CCR) Section 3705(m) requires that reclaimed revegetated sites be "similar to naturally occurring habitats in the surrounding area."

Detailed vegetation mapping and surveys were completed by WestLand as part of their Revegetation Plan include as Appendix A. Please see the representative photos presented in the Revegetation Plan (WestLand Resources, Inc., 2021) for additional detail. Specifically, existing vegetative cover, as well as species density and richness, were evaluated for the proposed areas of disturbance (i.e., Drill Areas, and associated access roads). These baseline evaluations will be used as a reference area for the establishment of revegetation within the Drill Areas and associated access roads to be reclaimed/revegetated. The pads and roads will be reclaimed and revegetated as described above. The revegetation effort will enhance the success of the revegetation and will augment the reseeding that will occur naturally.

The Project will entail only a small amount of total disturbance, and much of this will be within areas that have been previously disturbed. The Project also contemplates temporary activities over a relatively short time period. Moreover, there is a striking lack of vegetation throughout the Project Area. As described above, the vegetation in both the uplands and washes is sparse with limited vegetation cover.

In addition to the onsite baseline data collected by WestLand and included within the Revegetation Plan (Appendix A), nearby naturally occurring habitat areas will also be examined by the qualified biologist/revegetation specialist for potential use as reference sites prior to initiating revegetation within a specific area. Proposed revegetation standards, including plant palettes, plant densities and performance standards, will be evaluated and revised by the qualified biologist/revegetation specialist as appropriate based on the observed reference areas.

In order to accomplish this revegetation will be deemed successful upon achieving 25 percent of the vegetative cover of adjacent similar vegetation per 20-meter by 1-meter transects. In addition to the 25 percent of vegetative covered of adjacent similar vegetation as noted previously, success for vegetation density shall be achieved by the establishment of 25 percent total plant cover per 20-meter by 1-meter transect. Similarly, species richness shall be achieved through the establishment of 4 native plant species per 20-meter by 1-meter transect.

Because the specific locations of drill pads are not known at this time and flexibility is built into the project to allow for adaptation of exact locations based on drilling results, comparison sites will be chosen in field by the qualified biologist/revegetation specialist once the exact drill pad locations are identified. Additionally, the success criteria noted above may be revised if warranted at the discretion of the qualified biologist/revegetation specialist. This is an appropriate success criterion for the following reasons:

- The Project will entail only a small amount of total disturbance, and much of this will be within areas that have been previously disturbed.
- The Project contemplates temporary activities over a relatively short time period.
- The Project Area has been previously disturbed from past mining activities, and there is a striking lack of vegetation throughout the Project Area. Vegetation in both the uplands and washes is sparse with limited vegetation cover (Appendix A).

- The planned revegetation effort is planned to enhance the success of the revegetation and will augment the reseeding that will occur naturally.

Please see the Revegetation Plan (WestLand Resources, Inc., 2021) presented in Appendix A for additional detail.

2.6.6 Test Plots, CCR §3705(b)

SMARA regulations require test plots be established to determine appropriate planting procedures to assure successful revegetation (14 CCR §3705(b)). However, this requirement may be waived if success can be documented from previous experience with similar species and conditions, or based on competent professional advice.

The revegetation seed mix presented in Table 7 was developed by WestLand based upon detailed baseline vegetation mapping surveys, and was reviewed/approved by the BLM. As such, the use of test plots is not expected to be necessary. Nonetheless, prior to initiating revegetation, the qualified biologist/revegetation specialist will be consulted to determine if test plots are necessary at the Project site(s). The qualified biologist/revegetation specialist will have experience with the species approved in the seed mix (see Table 7) to advise whether test plots will be needed to ensure successful implementation of the proposed revegetation plan.

2.7 Site Cleanup, CCR §2772 (c)(8), §3502 (b)(5)

2.7.1 Building Structure & Equipment Removal, CCR §3709

No permanent buildings or structures will be erected as part of this Project. Any temporary facilities used in support of the drilling campaign, such as portable toilet systems, portable storage containers and trash bins will be removed once drilling is complete.

Generally, the strategy for reclamation and closure of equipment and facilities would include:

- Removing temporary instrumentation and equipment, utilities, and unneeded access roads; and
- Reclaiming disturbed surfaces by ripping and/or covering and reseeding.

2.7.2 Road Closure

As discussed previously, the main entrance road may remain beyond the 12- to 24-month exploration activities; but reclamation and monitoring of those areas would also be completed within 5 years of Project implementation.

Closure of roads would involve demolishing fill while maintaining satisfactory drainage. Roads would be reclaimed. Where needed, rock or earthen berms and water bars would be placed to prevent vehicular access and reduce erosion. The road corridors would be reclaimed by treatment with a mulch/seed mix to promote revegetation.

2.7.3 Tailing & Mine Waste Management, CCR §3712

As described previously, other than nominal quantities of drill cuttings, no mine wastes and/or tailings will be generated by the exploratory drilling operations in the Project Area. The inert drilling mud materials would be disposed of in accordance with applicable County, state, and federal regulations. The drill site, mud pits, and outer berm would then be returned to natural grade with a track hoe using rocks

and soil set aside during site construction and mud pit excavation.

2.7.4 Closure of Surface Openings, CCR §3713

As discussed above, upon completion of the exploration, the exploratory drill holes would be sealed and abandoned in compliance with the most current edition of State Water Resources Control Board Bulletin #74-81 and #74-90. This would include backfilling with onsite materials, sealing with bentonite clay; and covering with a 2- to 3-foot mound of onsite material. Drilling and drill hole abandonment would be conducted in accordance with SMARA, Public Resources Code Sections 2710 et seq. and its regulations at 14 CCR Section 3500 et seq.

2.8 Post-Reclamation and Future Mining, CCR §2772 (c)(7)

As described above, the anticipated post-Project (i.e., post-reclamation) land uses are mining, recreational uses, and open space. Final reclaimed side-slopes will not exceed the SMARA criteria of 2H:1V (horizontal to vertical) in any Project Area. For areas proposed to be revegetated (see Figure 6), the site will be revegetated using the seed mix described in Section 2.6.3 above. The reclaimed Project Area will be compatible with the proposed end uses, as well as the adjacent properties. Please see Figure 6 which displays the final design of the reclaimed Project Area.

2.8.1 Impact of Reclamation on Future Mining, CCR §2772 (c)(9)

The proposed end use of the final reclaimed Project Area will be land uses compatible with future mining, recreational uses, and/or open space. As such, the implementation of this Reclamation Plan will not preclude or impact future mining in the area.

2.9 Ponds, Reservoirs, Tailings & Wastes, CCR §3706, §3712

As discussed above, following the completion of all drilling, solids and desiccated drilling muds that have been contained in the sump would be treated by evaporation and by allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would then be backfilled. The drilling muds that would be used would not contain toxic or deleterious materials. The proposed drilling mud material data sheets could be provided to BLM upon request. The inert drilling mud materials would be disposed of in accordance with applicable County, state, and federal regulations. The drill site, mud pits, and outer berm would then be returned to natural grade with a track hoe using rocks and soil set aside during site construction and mud pit excavation. Once reclaimed, onsite slopes would not exceed 2H:1V (horizontal to vertical). Water bars and erosion-control features would be repaired and constructed as necessary. All equipment and supporting structures would be removed from BLM lands.

Other than temporary mud pits/sumps described above, no ponds, tailings, and/or mine waste basins or impoundments resulting from the Project that would require reclamation will be present within the Project Area.

2.10 Topsoil Salvage, Maintenance, & Redistribution, CCR §3711

Please see Section 1.4.1, which describes the site geology and soils found within the Project Area. As discussed previously, the potential to salvage topsoil/subsoil from the Project Area for use as a growth medium for revegetation is limited. Consequently, topsoil/and subsoil will be salvaged where feasible by pushing the material along the edge of the drill pads and along the sides of the new access roads. Any topsoil/subsoil stored in stockpiles and/or berms will be maintained and BMPs implemented to minimize

soil erosion. Once the drilling campaign is complete, the stored topsoil/subsoil will be spread out and reseeded.

Additionally, the drilling campaign will utilize mud sumps to house the drilling fluids. The excavated spoils will be stored along the edges of the pads and then backfilled into the excavated pits once drilling is complete and equipment demobilization occurs. These backfilled materials and any topsoil/subsoil that is salvaged will then be reseeded as part of the overall revegetation efforts.

2.11 Drainage, Erosion & Pollution Controls

2.11.1 Drainage, Diversion Structures, & Erosion Control, CCR §3706

There are no existing or proposed drainage or stream features within the Project Area, and exploration operations and reclamation activities in the Project Area will not impact nearby waterways.

Development and exploration of the site is not expected to create an increased potential for stormwater runoff that could adversely impact adjacent areas. Additionally, due to the existing topography and land uses, the site is not expected to receive significant local runoff from neighboring properties. Generally, stormwater that falls on the site will be contained and will either naturally evaporate or infiltrate into the ground. Because runoff will ultimately not change as a result of the Project, post-reclamation runoff and erosion sedimentation will also not change. Drainage and erosion control during and after reclamation activities will be managed using BMPs. For further detail on drainage and erosion control measures, please refer to Section 1.10.

2.11.2 Stream Protection, Including Surface Water, & Groundwater, CCR §3710

The exploratory activities within the Project Area will not affect streams, surface water bodies or groundwater; and therefore protective measures are not required as part of reclamation. However, approved BMPs to protect stormwater quality within the Project Area will be implemented on an as needed basis. The approved BMPs will be implemented within the Project Area to prevent runoff and control erosion.

2.12 Other SMARA Reclamation Standards

2.12.1 Prime Agricultural Land Reclamation, CCR §3707

Per the California Department of Conservation's Farmland Mapping and Monitoring Program, no portions of the Project Area are located within Prime Agricultural land.

2.12.2 Other Agricultural Land Reclamation, CCR §3708

The reclaimed area will be returned to land uses readily adaptable to future mining, recreational uses, and open space. None of the Project Area would be reclaimed to an agricultural land use.

2.12.3 Other Lead Agency Requirements, CCR §2772(c)(11)

In addition to the SMARA requirements addressed in this Reclamation Plan, the following BLM, County zoning/land use requirements and CEQA requirements are applicable to the Project:

- BLM, H-3809-1 Surface Management Handbook;
- BLM, 43 Code of Federal Regulations (CFR) 3809.401(d);
- Imperial County, Code of Ordinances (Title 9, Division 20 – Surface Mining and Reclamation);

- Imperial County, General Plan (1993); and
- CEQA Appendix G Environmental Checklist and subsequent CEQA documents.

2.13 Monitoring, Maintenance, & Reporting

As discussed above, performance monitoring will include both qualitative and quantitative assessment. Qualitative monitoring will occur during periodic inspections of the reclamation and revegetation areas. These inspections will occur frequently (approximately every month) during the first 12 to 14 months of reclamation, and less often in subsequent years. This monitoring schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria. Quantitative monitoring will typically occur annually, beginning during the first year after planting. Monitoring of the reclamation areas will cease once the Project Area has been fully reclaimed and revegetated to the satisfaction of the County, in accordance with this Reclamation Plan.

2.13.1 Qualitative Monitoring

Qualitative monitoring methods will include visual observation and photo documentation. There are no specific performance criteria associated with this monitoring.

During monitoring events, the qualified biologist/revegetation specialist will document the conditions, potential issues (i.e., vandalism, fence damage, presence of exotic species, herbivory, erosion, etc.), and recommended actions in a field memo. Copies of all field memos will be included in each year's annual SMARA report, which will be submitted to the County for review.

Annual photographs of revegetation areas will be taken from preset photo stations during data collection events. Additional photographs will be taken of any potential problem areas. All photographs will be logged and included in each annual report.

2.13.2 Quantitative Monitoring

Vegetative cover and species composition will be assessed using the sampling methods described below and the success criteria described in Section 2.6.5. Sampling will generally be conducted at the end of the growing season. Following each annual data collection event, the qualified biologist/revegetation specialist will compile data and prepare an analysis of the results.

As discussed in Section 2.6.5, quantitative data will be collected using the line-intercept method for a 20-square-meter area. Success monitoring will include sampling along six (6) randomly placed 20-square-meter transects per each reclaimed area. Data for all transects will then be averaged to produce the results. Success criteria are based on the overall quality of the revegetation results compared to recorded vegetation data described in Section 2.3.1 and qualitative comparison with reference areas, as deemed appropriate by the qualified biologist/revegetation specialist.

Following completion of revegetation for a specific area, the surviving perennial plant species will be evaluated annually for at least two years by the qualified biologist/revegetation specialist. The first 12 to 14 months will measure survival of revegetated areas, need for weeding, and successful establishment of seeded native plants. During the third year, monitoring will focus on the site's resemblance to undisturbed vegetation in terms of the performance criteria presented in Section 2.6.5. This schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria. Monitoring data will be reviewed by the qualified biologist/revegetation specialist and reviewed annually

by the County through submittal of the annual SMARA report (see Section 2.13.3).

2.13.3 Annual Monitoring Reports

Annual monitoring reports will be prepared that include a summary of the revegetation effort, site conditions, any issues encountered, evaluation of the data collected and success achieved, and recommendations for meeting the performance criteria. Reports will be submitted to the County for review annually.

2.14 Reclamation Assurance, CCR §2773.1(a)

A detailed Financial Assurance Cost Estimate (FACE) will be prepared prior to commencement or operations in the Project Area. The FACE will include detailed descriptions and spreadsheets estimating the cost for reclamation of the site to the specifications established in this Reclamation Plan.

A performance bond payable to the County and, in the alternative, the California Department of Conservation (DOC), Department of Mine Reclamation (DMR), will be provided to the County in the amount of the estimated cost of reclamation. Alternatively, if provided for by future regulations, other forms of equivalent surety may be substituted.

Please see Section 4.0 below for more detail.

3.0 STATEMENT OF RESPONSIBILITY, CCR §2772(C)(10)

As required by Public Resources Code §2772 (c)(10), the owner and operator accept responsibility for reclaiming the mined lands in accordance with the provisions of this Reclamation Plan.

I, the undersigned, hereby acknowledge that all of the provisions of said permit and reclamation plan, and any and all conditions appended thereto will be faithfully performed and completed within the time therein provided, or within any additional time as may be allowed pursuant to the Surface Mining Ordinance Code of the lead agency and with the applicable requirements of Articles 1 and 9 (commencing with section 3500 et seq., respectively) of Chapter 8, Division 2, Title 14, of the California Code of Regulations, the Surface Mining and Reclamation Act of 1975 (SMARA), as amended (Section 2710 et seq. of the Public Resources Code) which are incorporated herein by reference.

I, the undersigned, hereby agree to perform and complete the provisions of said permit and/or plan, including any and all conditions appended thereto, shall be subject to the provisions of said Ordinance Code and SMARA and the State Mining and Geology Board’s implementing regulations and guidelines.

That the place of performance by the undersigned of the covenants herein, shall be the area managed by the lead agency in the State of California.

That, pursuant to Public Resources Code section 2774.1 (a) notice procedures, any notice required to be given, or otherwise given to the undersigned may be by personal service or by certified mail.

Signature _____

Name _____

Signed this ____ day of _____, 20____

4.0 FINANCIAL ASSURANCES, CCR §2773.1 (A)

A Financial Assurance Cost Estimate (FACE) will be prepared for the Oro Cruz Exploration Project. This FACE will be reviewed annually and updated accordingly.

5.0 REFERENCES

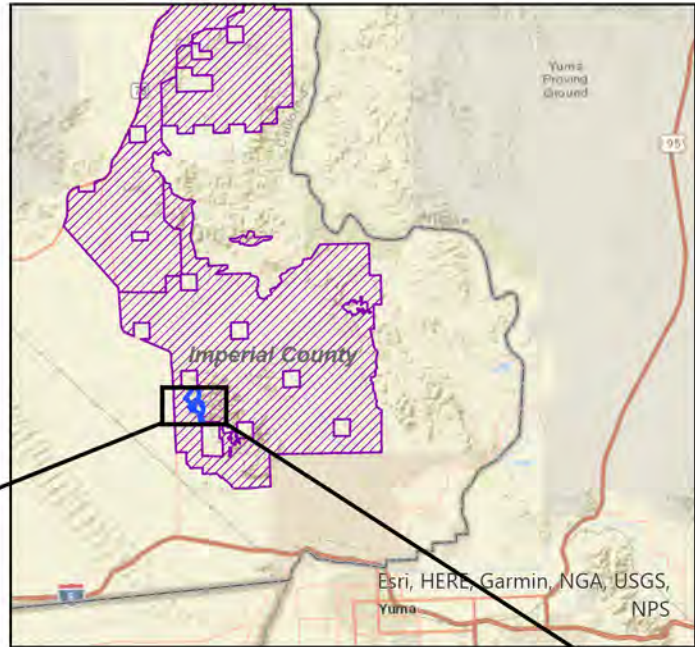
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FIGURES

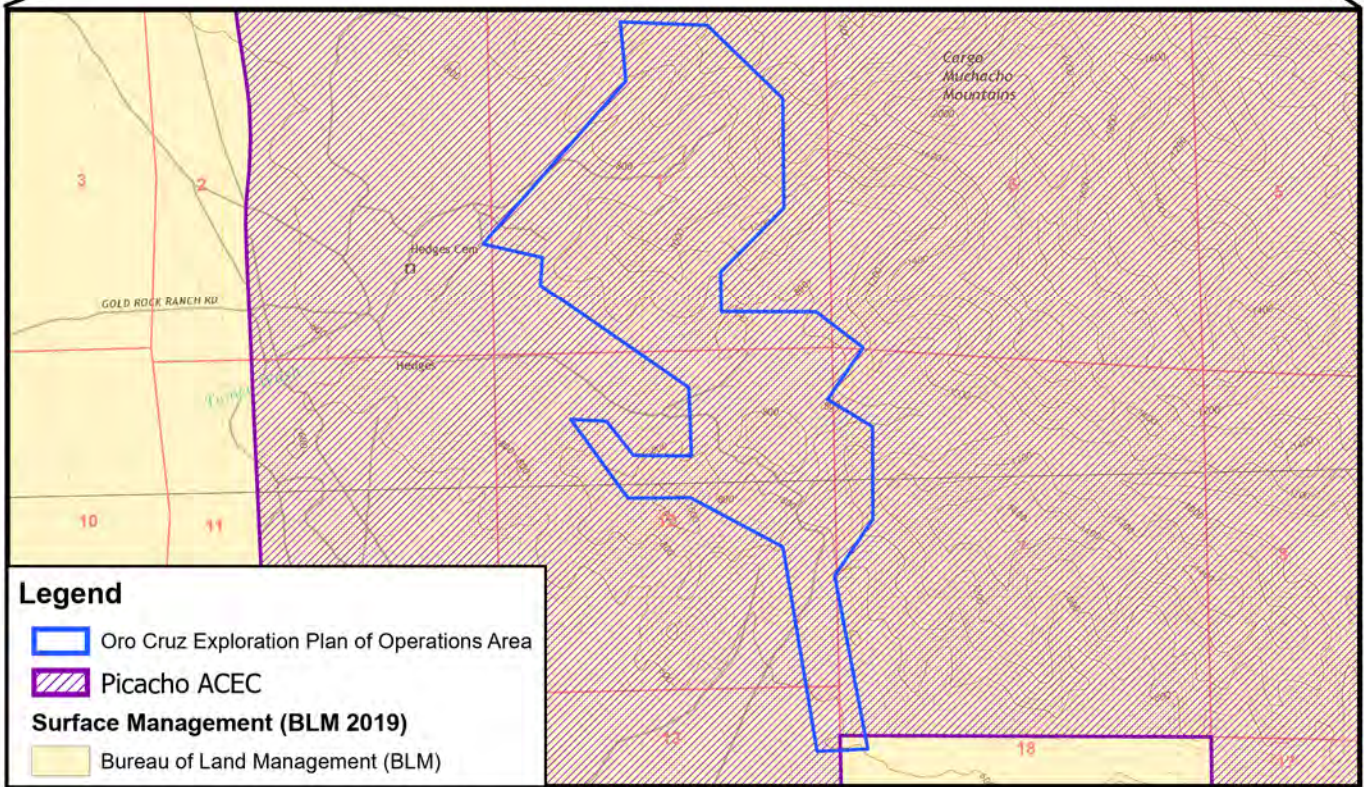
CALIFORNIA



PROJECT VICINITY



Approximate Scale 1 Inch = 12 Miles



Legend

- Oro Cruz Exploration Plan of Operations Area
- Picacho ACEC

Surface Management (BLM 2019)

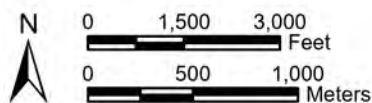
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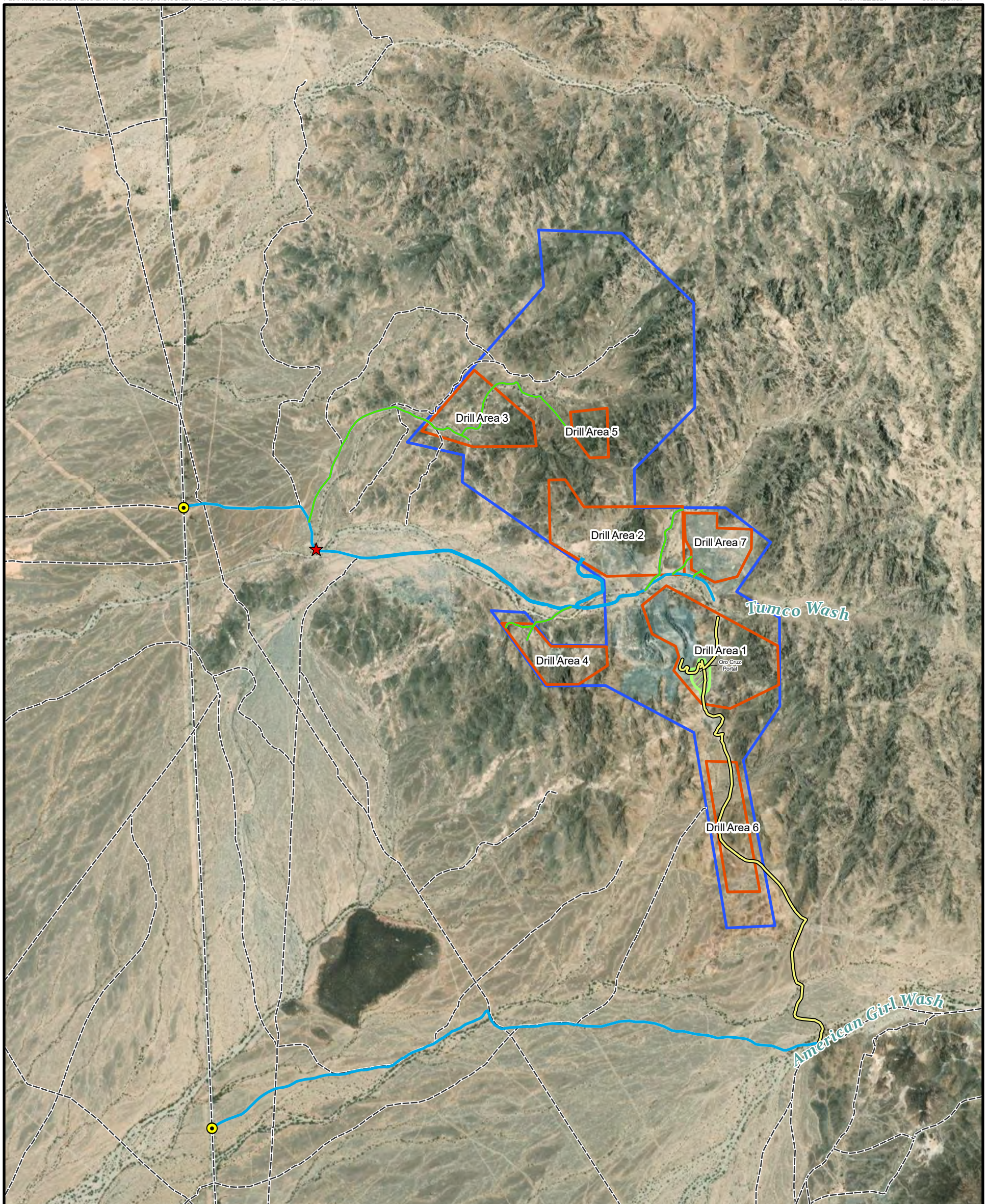
T15S, R20E, Portions of Sections 1, 2, 12 and 13,
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 Imperial County, California,
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SMP GOLD CORP.
**Oro Cruz Exploration
 Plan of Operations**

VICINITY MAP

Figure 1

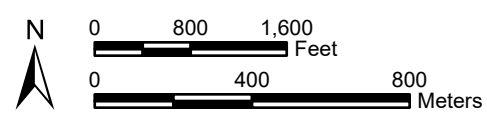




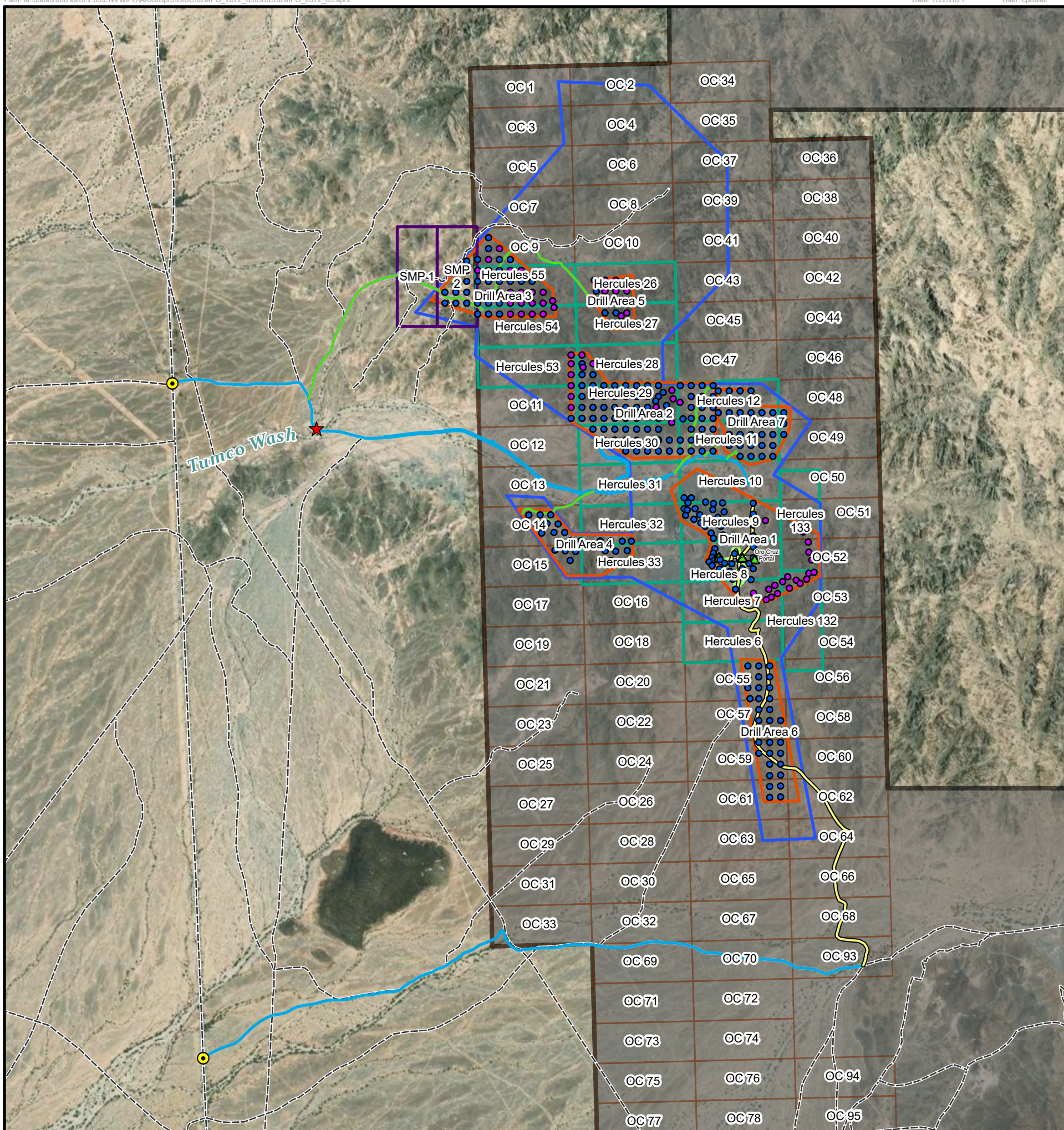
Legend

- ★ Locked Gate
- Truck Upload Point
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Drill Area
- Oro Cruz Exploration Plan of Operations Area
- ▨ Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018



SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 PROJECT LOCATION
 Figure 2



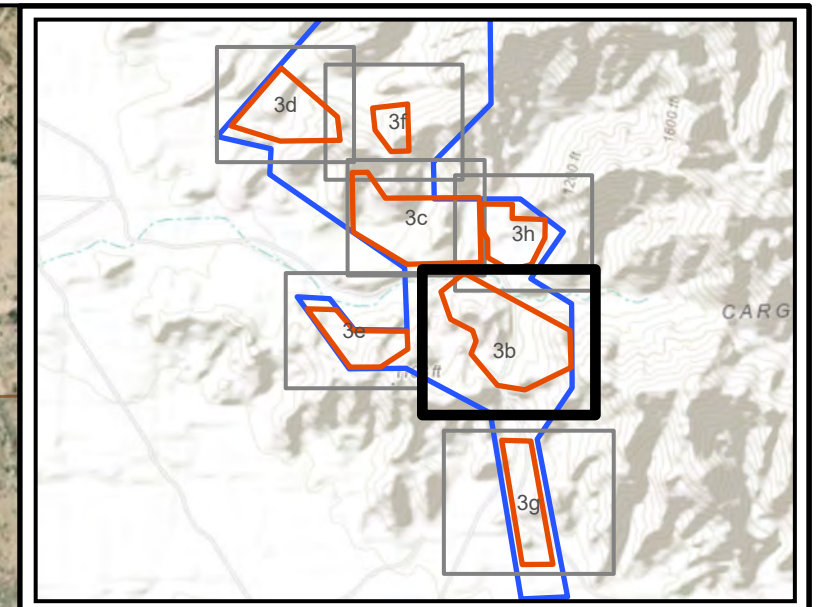
Legend

- ★ Locked Gate
- Truck Upload Point
- Potential Drill Hole Location:**
 - Helicopter-Accessed RC Drill Holes
 - Road-Accessed RC Drill Holes
 - ▲ Road-Accessed RC Drill Hole with Core Tail
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Hercules Lode Claim
- New Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Drill Area
- Oro Cruz Exploration Plan of Operations Area
- Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
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SMP GOLD CORP.
Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3a

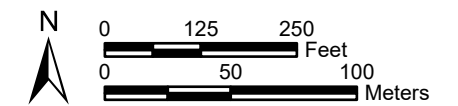




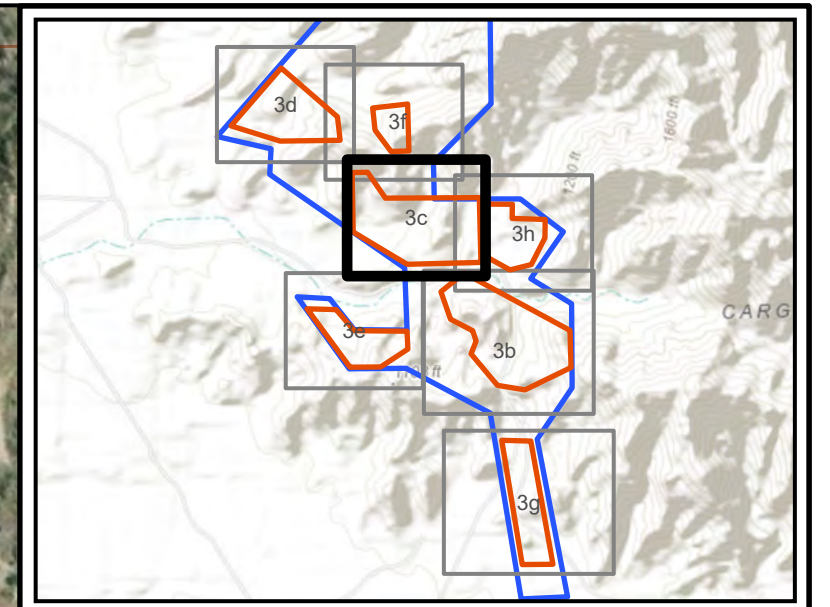
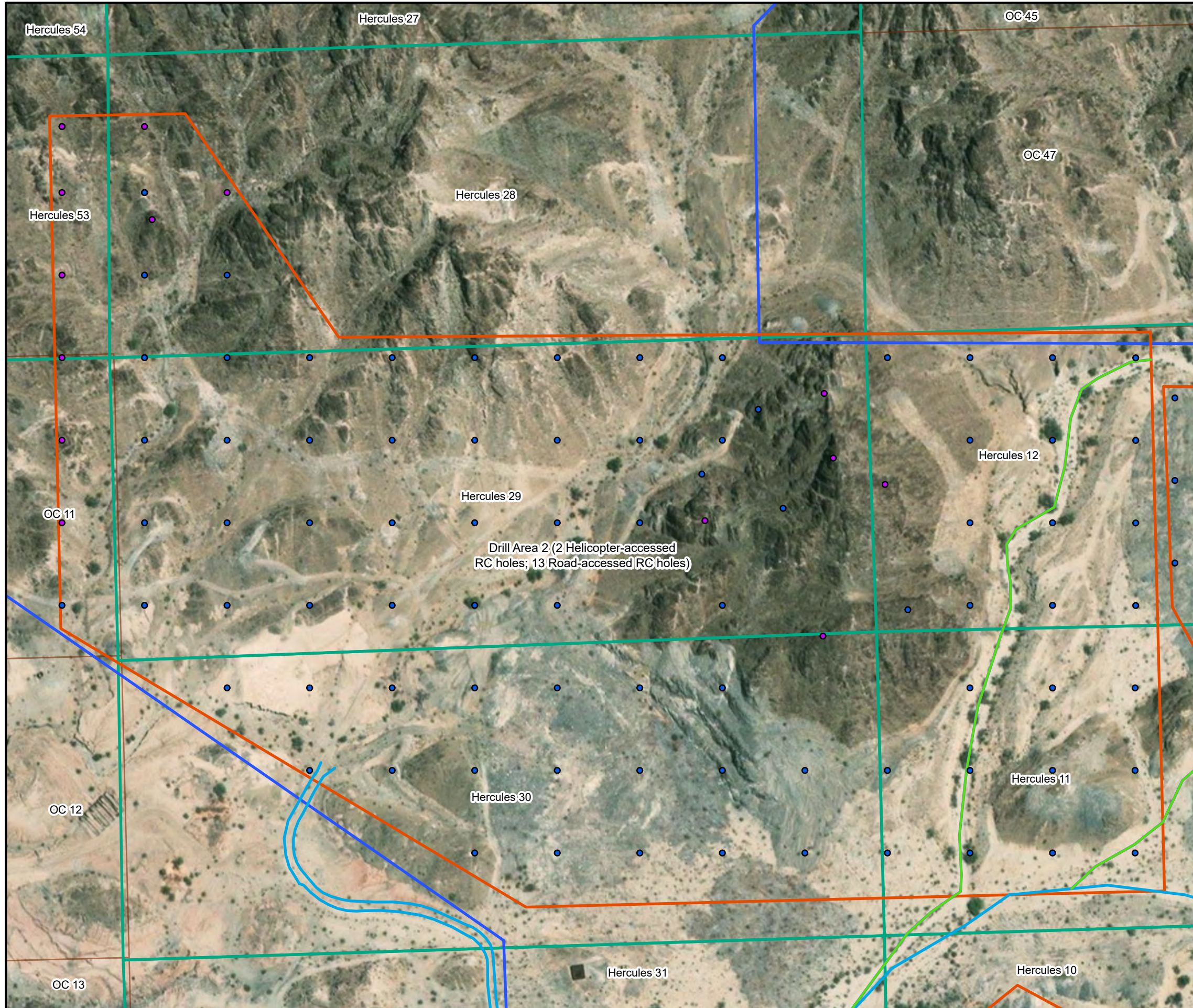
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 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

- Fueling Station
- Potential Drill Hole Location:**
- Helicopter-Accessed RC Drill Holes
- Road-Accessed RC Drill Holes
- Road-Accessed RC Drill Hole with Core Tail
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Safety Berm
- Drill Area
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area
- Oro Cruz Portal Staging Area



WestLand Resources
 SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3b

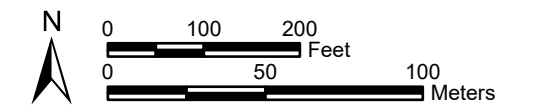


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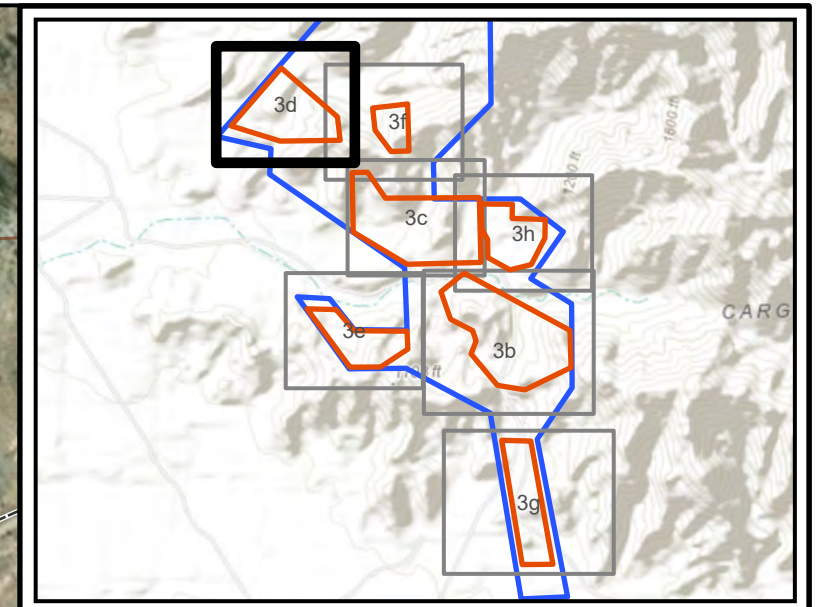
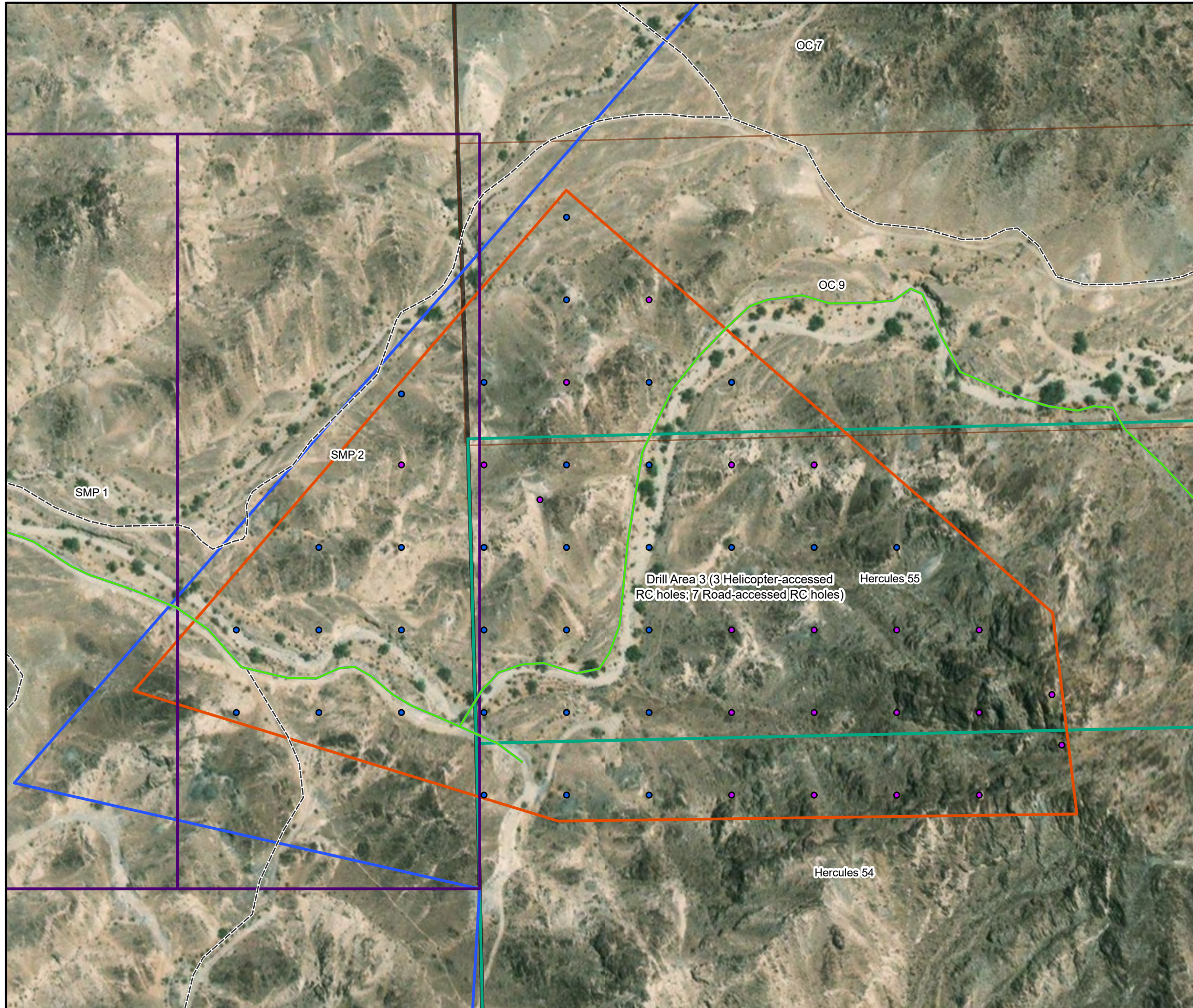
Legend

Potential Drill Hole Location:

- Helicopter-Accessed RC Drill Holes
- Road-Accessed RC Drill Holes
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- ▭ Drill Area
- ▭ Hercules Lode Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Oro Cruz Exploration Plan of Operations Area



WestLand Resources
 SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3c

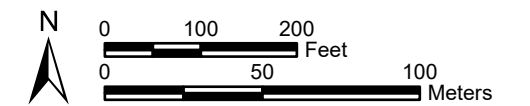


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 Imperial County, California, Data Source: SMP
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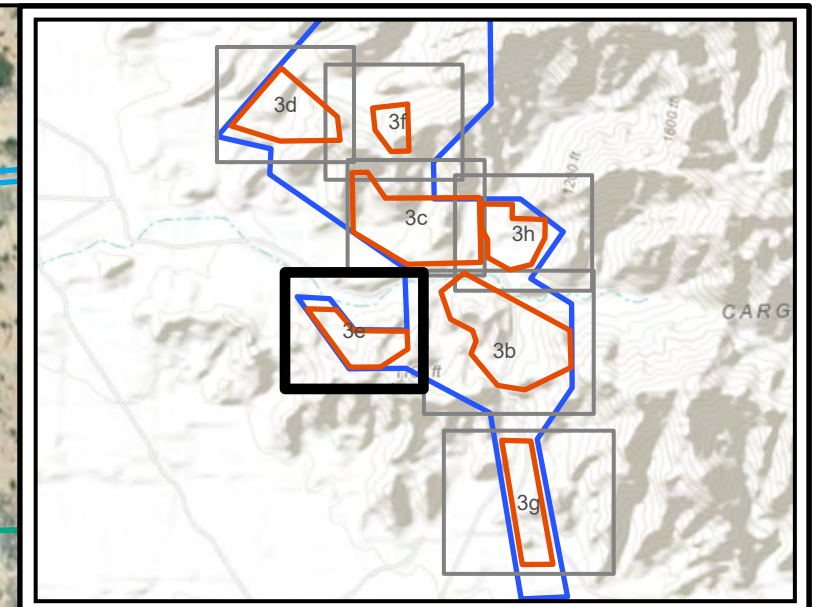
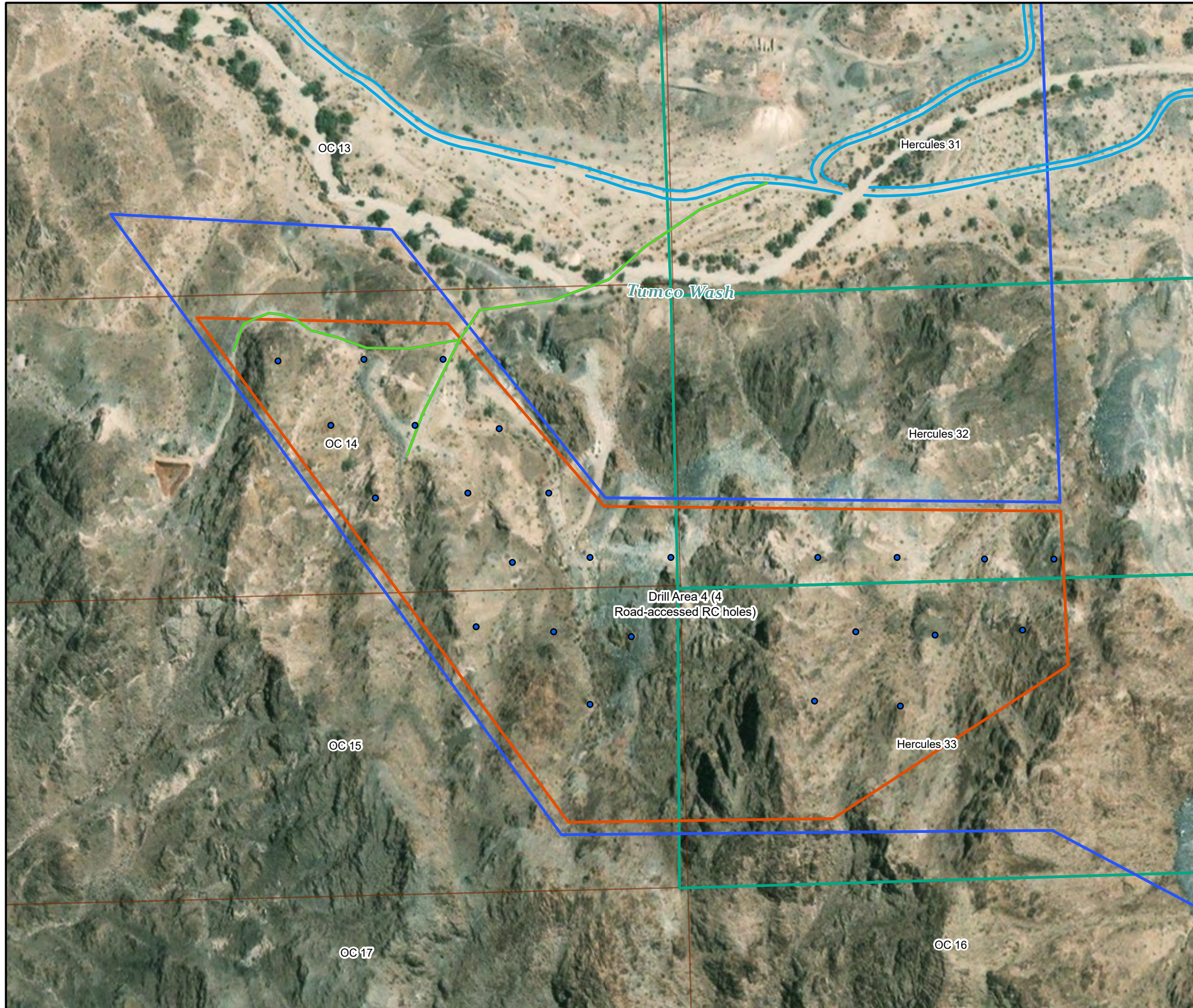
Legend

Potential Drill Hole Location:

- Helicopter-Accessed RC Drill Holes
- Road-Accessed RC Drill Holes
- BLM Approved Access Road
- Existing Access (Improvement Required)
- ▭ Drill Area
- ▭ Hercules Lode Claim
- ▭ New Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Oro Cruz Exploration Plan of Operations Area




 WestLand Resources
SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3d

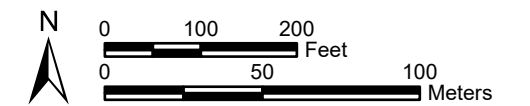


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

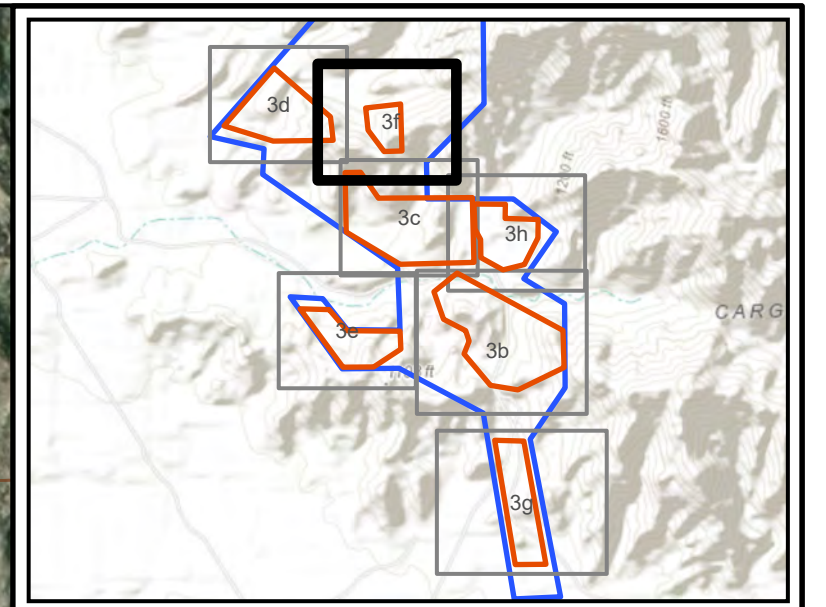
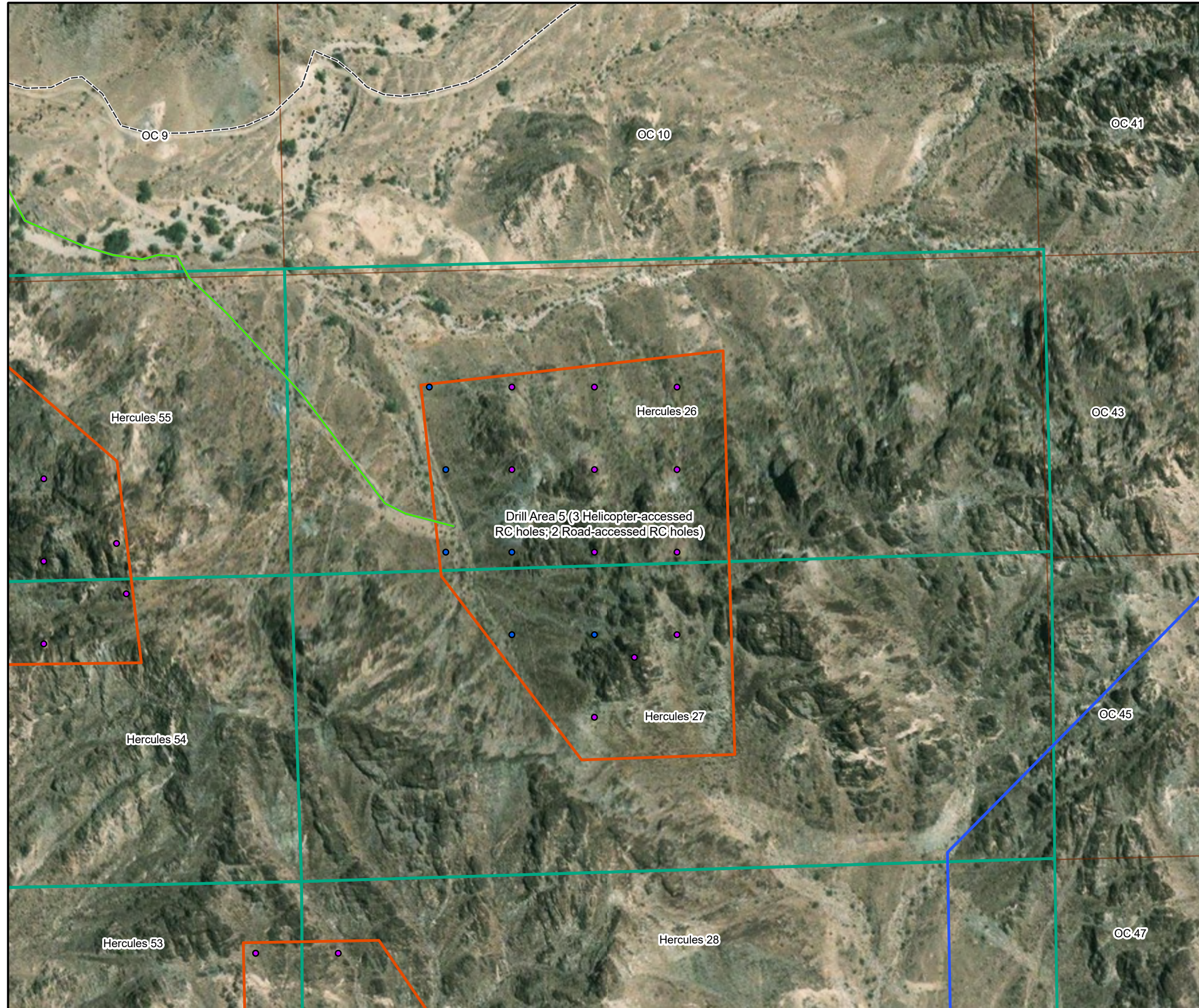
Legend

Potential Drill Hole Location:

- Road-Accessed RC Drill Holes
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- ▭ Drill Area
- ▭ Hercules Lode Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Oro Cruz Exploration Plan of Operations Area



WestLand Resources
 SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3e

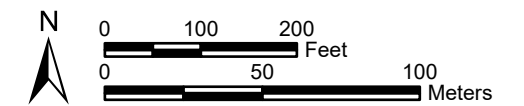


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 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

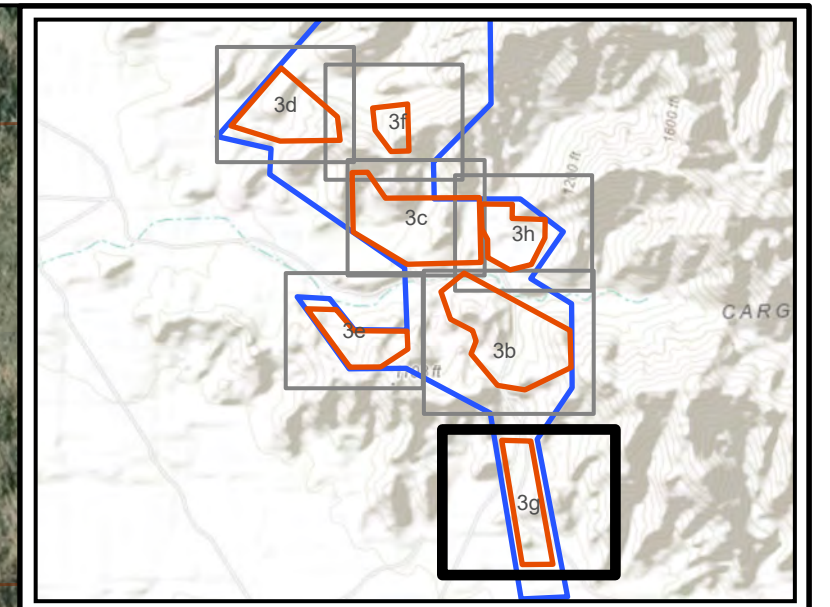
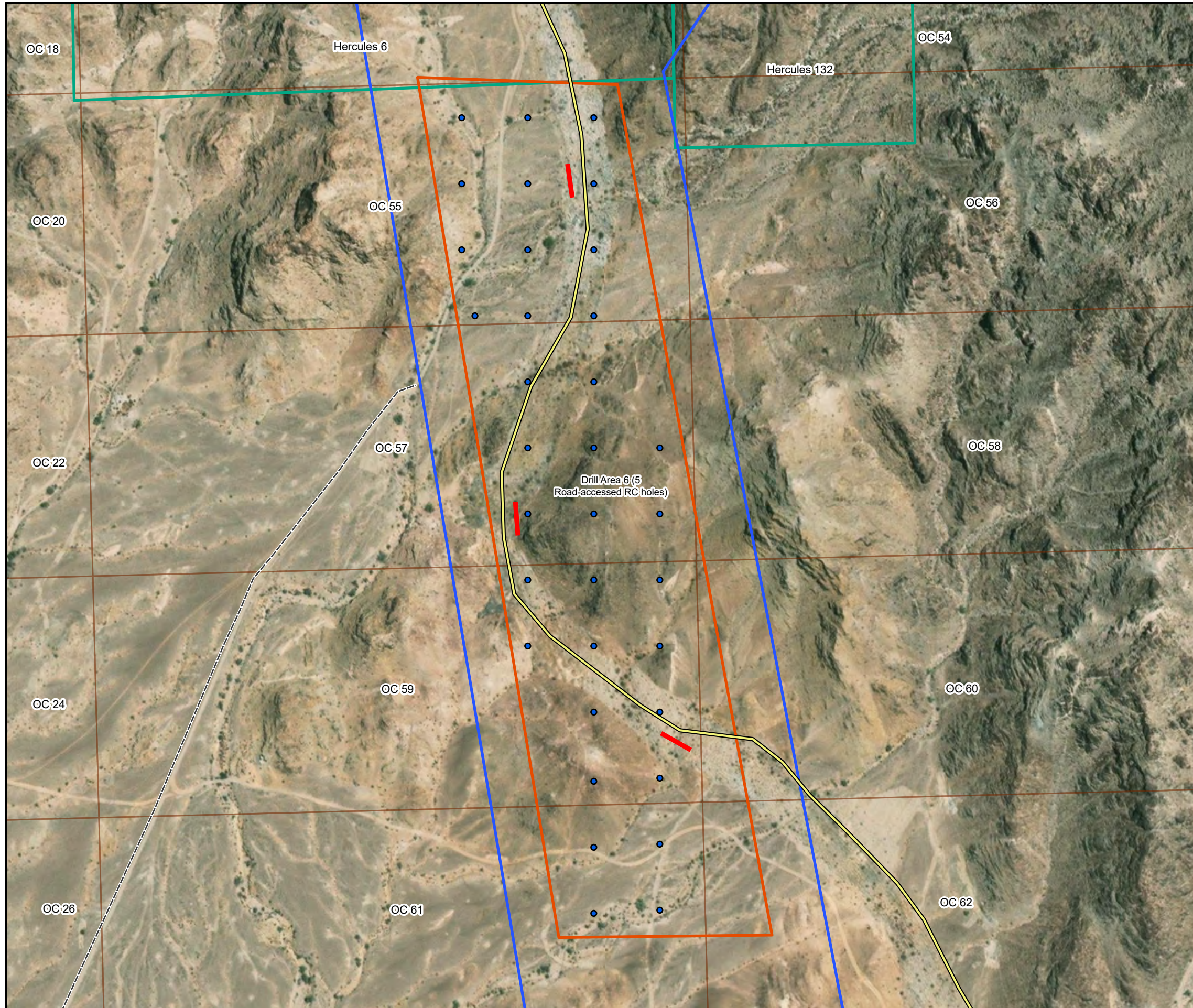
Legend

Potential Drill Hole Location:

- Helicopter-Accessed RC Drill Holes
- Road-Accessed RC Drill Holes
- BLM Approved Access Road
- Existing Access (Improvement Required)
- ▭ Drill Area
- ▭ Hercules Lode Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Oro Cruz Exploration Plan of Operations Area




 WestLand Resources
SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3f

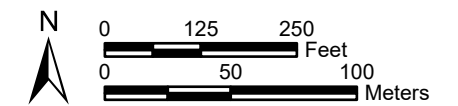


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
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 Imperial County, California, Data Source: SMP
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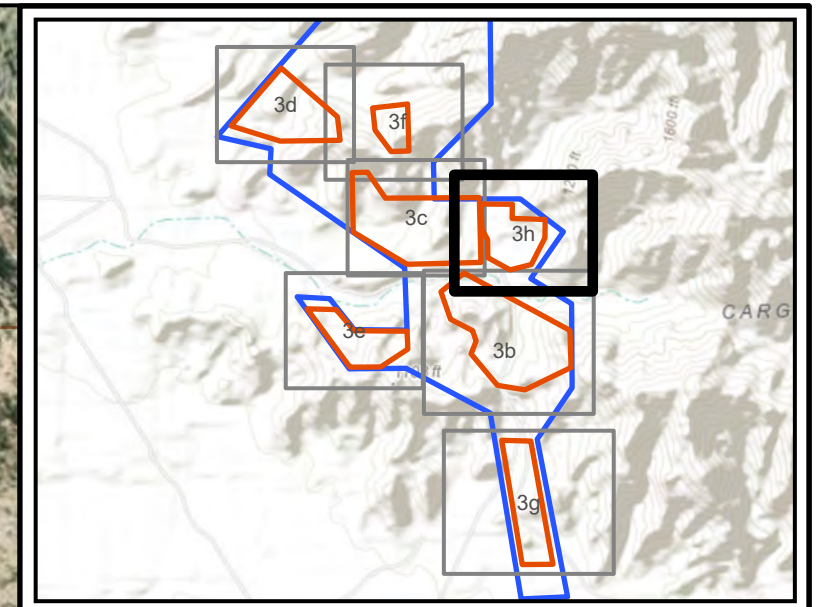
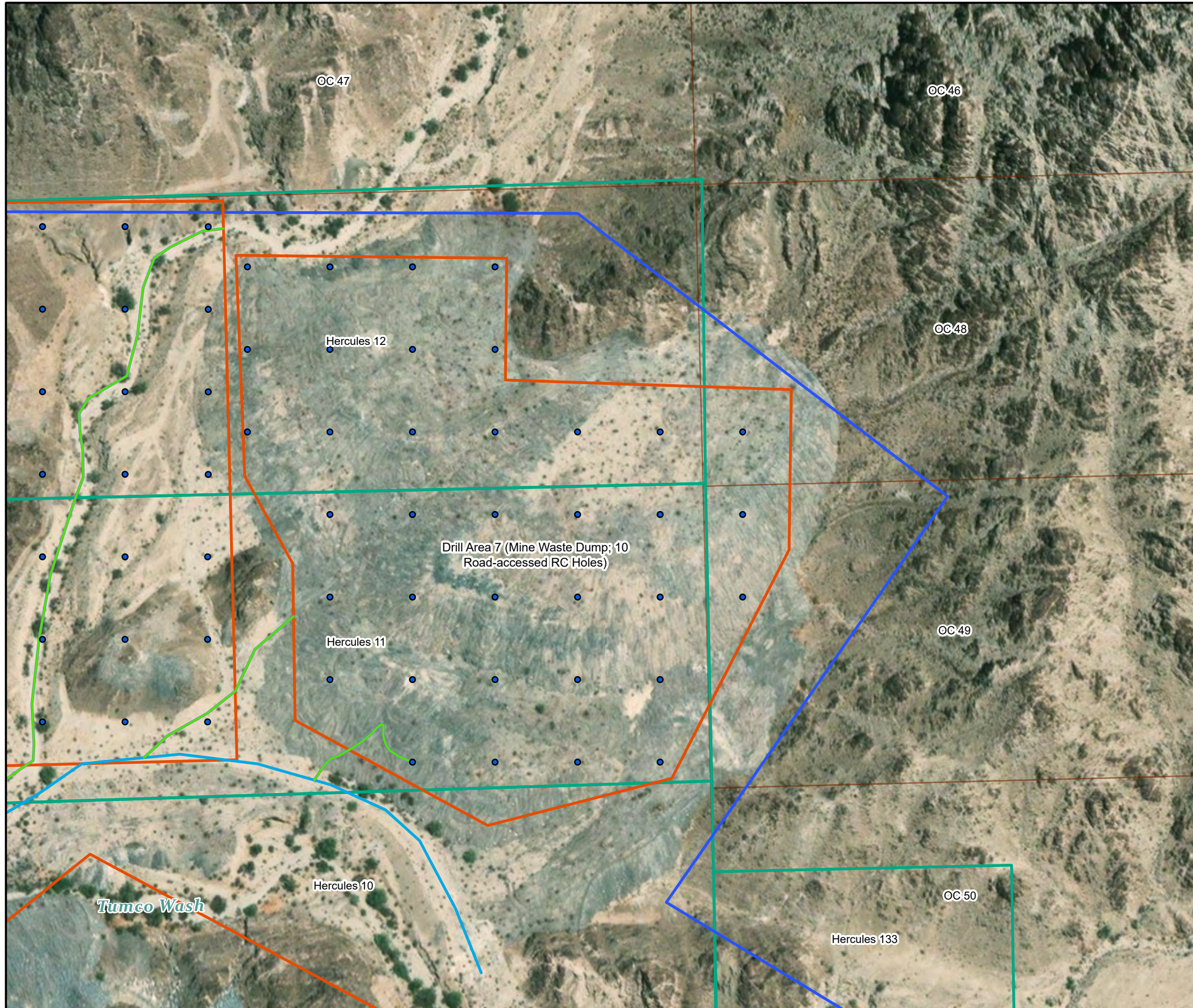
Legend

Potential Drill Hole Location:

- Road-Accessed RC Drill Holes
- BLM Approved Access Road
- New Access Road
- Safety Berm
- Drill Area
- Hercules Lode Claim
- OC 1-131 Lode Claim
- Oro Cruz Claim Boundary
- Oro Cruz Exploration Plan of Operations Area



WestLand Resources
 SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3g

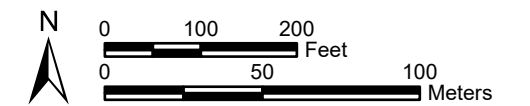


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
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 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

Legend

Potential Drill Hole Location:

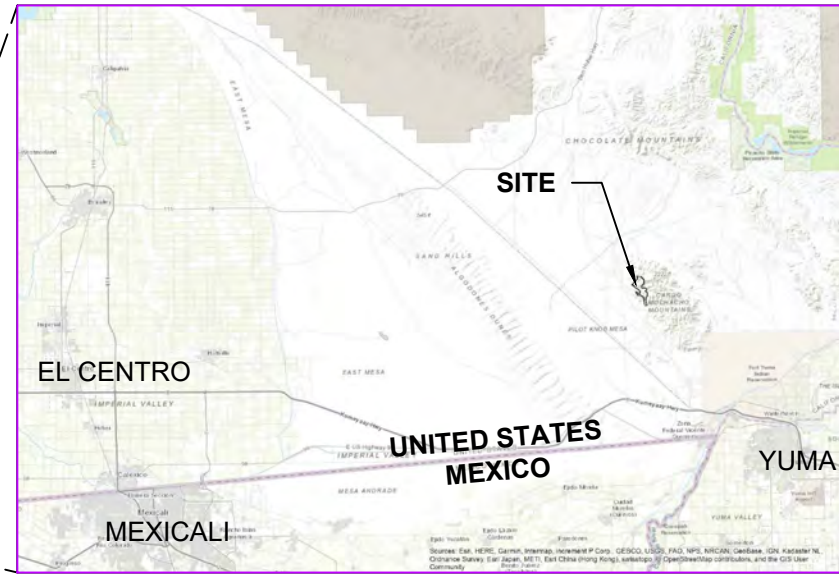
- Road-Accessed RC Drill Holes
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- ▭ Drill Area
- ▭ Hercules Lode Claim
- ▭ OC 1-131 Lode Claim
- ▭ Oro Cruz Claim Boundary
- ▭ Oro Cruz Exploration Plan of Operations Area



WestLand Resources
 SMP GOLD CORP.
 Oro Cruz Exploration Plan of Operations
 BLM CLAIMS BOUNDARY
 Figure 3h



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LEGEND:

- ORO CRUZ RECLAMATION PLAN BOUNDARY
- ORO CRUZ DRILL HOLE AREAS
- EXISTING CONTOURS
- ORO CRUZ CLAIM BOUNDARY
- NEW SMP CLAIM BOUNDARY
- EXISTING ACCESS ROAD (IMPROVEMENT REQUIRED)
- EXISTING ACCESS ROAD (NO IMPROVEMENT REQUIRED)
- NEW ACCESS ROAD

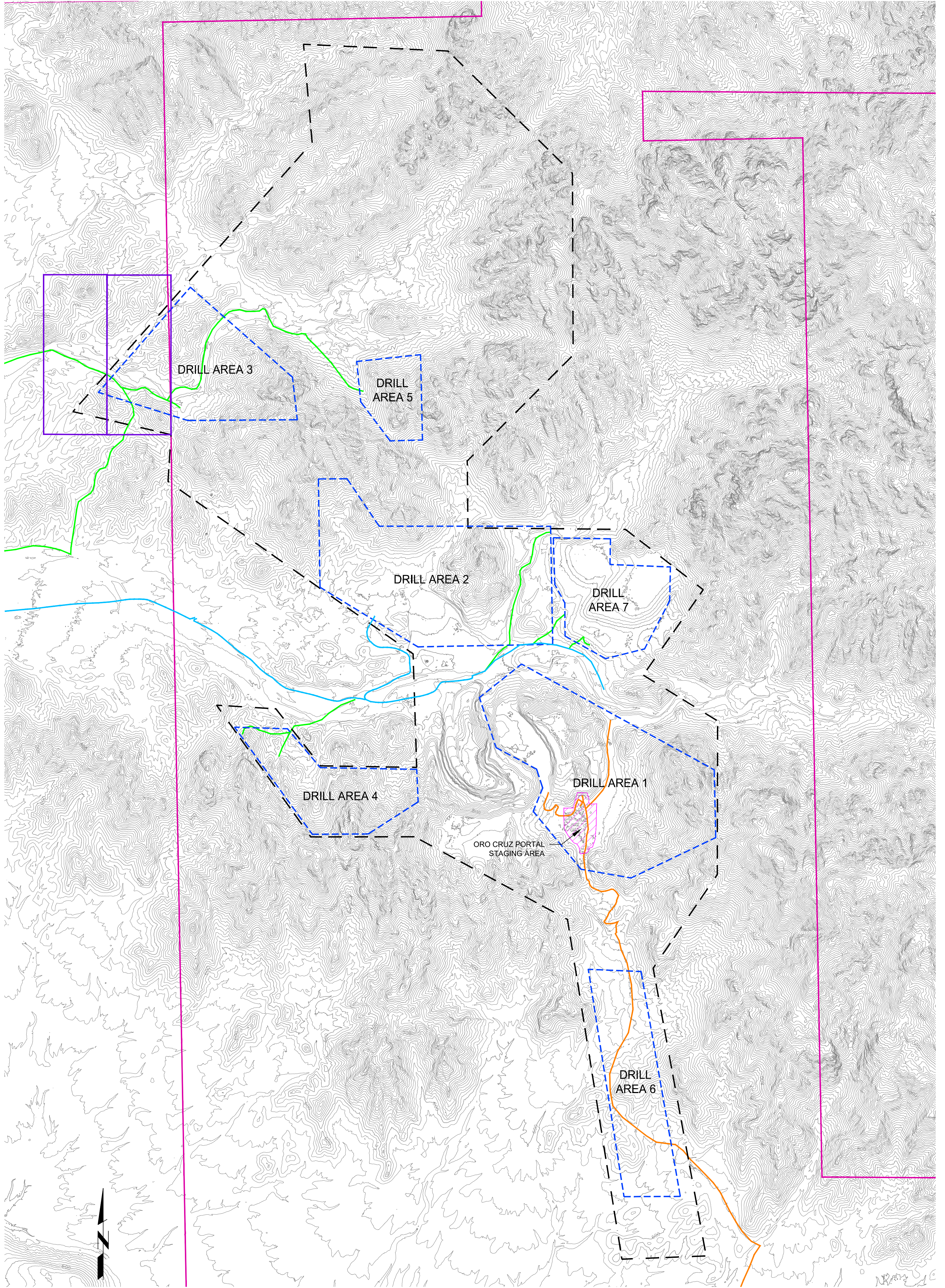
NOTES:

1. DURING ROAD CONSTRUCTION ACTIVITIES, VEGETATION DISTURBANCE WILL BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE.
2. ROAD IMPROVEMENTS WILL REQUIRE SELECTED STRETCHES OF EXISTING ACCESS ROAD (AS SHOWN HEREON) TO BE BLADED AND CLEARED OF VEGETATION.
3. ROADS WILL GENERALLY BE CONSTRUCTED APPROXIMATELY 12 FEET WIDE. EXISTING ROADS IN THE PROJECT AREA THAT REQUIRE IMPROVEMENTS WILL BE WIDENED TO 12 FEET AS NECESSARY.
4. WHERE NEEDED TO RESTRICT ACCESS TO DRILL AREAS, EITHER GATES, FENCES, OR BARRIERS CONSTRUCTED OF ONSITE MATERIALS WILL BE INSTALLED TO PREVENT UNAUTHORIZED VEHICULAR TRAFFIC FROM INTERFERING WITH THE RECLAMATION OF ACCESS ROADS.
5. DRILL PADS WILL CONSIST OF AN APPROXIMATELY 60-FOOT BY 40-FOOT AREA THAT WILL BE CLEARED TO HOLD THE DRILLING COLLAR AND SUMPS FOR DRILLING MUD (WASTEWATER AND FLUID), ALONG WITH ALL DRILLING EQUIPMENT AND PERSONNEL DURING CONSTRUCTION.
6. BEST MANAGEMENT PRACTICES (BMPs) TO PREVENT EROSION, SEDIMENT TRANSPORT, AND WINDBLOWN DUST WILL BE IMPLEMENTED AS DESCRIBED IN THE SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

GEOLOGIC SETTING:

THE ORO CRUZ PROJECT IS LOCATED IN THE CARGO MUCHACHO MOUNTAINS IN SOUTHEASTERN CALIFORNIA. BASED ON TECHNICAL REPORT PREPARED BY TETRA TECH (TETRA TECH, 2011), THE RANGE IS COMPRISED OF WELL-FOLIATED GNEISS AND SCHIST OF THE JURASSIC TUMCO FORMATION WHICH HAS BEEN METAMORPHOSED TO AMPHIBOLITE FACIES. MESOZOIC BIOTITE GRANITE AND ASSOCIATED PEGMATITE DIKES CUT THE TUMCO FORMATION AND ALSO CUT MESOZOIC HORNBLende-BIOTITE QUARTZ MONZONITE. THE GRANITE AND MONZONITE FORM LARGE INTRUSIVE BODIES IN THE RANGE. THE PRINCIPAL STRUCTURAL FABRIC IN THE RANGE IS WEST-NORTHWEST. LOW-ANGLE FAULTS ARE CUT BY NORTHWEST TRENDING FAULTS.

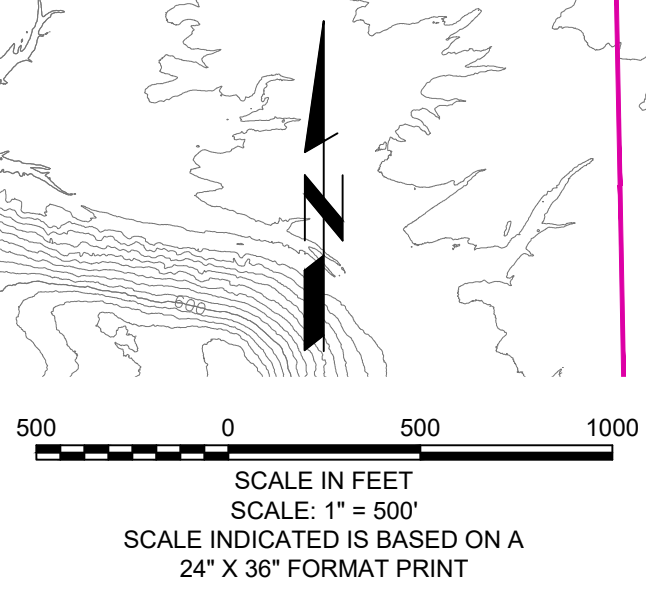
THE ORO CRUZ MINERAL DEPOSIT IS BELIEVED TO BE A DETACHMENT-FAULT-RELATED GOLD DEPOSIT CONSISTING OF REPLACEMENT MINERALIZATION ALONG A LOW-ANGLE DETACHMENT (LISTRIC) FAULT RELATED TO AN EXTENSIONAL FAULT SYSTEM IN THE CARGO MUCHACHO MOUNTAINS. PREVIOUSLY, TEXASGULF BELIEVED THAT THE ORO CRUZ GOLD DEPOSIT WAS AN EXHALITE. MINERALIZATION IS HOSTED WHOLLY WITHIN THE TUMCO FORMATION. MESOTHERMAL MINERALIZATION OCCURS IN MULTIPLE BROWN TO BROWNISH GRAY SILICEOUS ZONES CONTAINING HEMATITE, MAGNETITE, QUARTZ, MICA, FELDSPAR, CHLORITE, AND BLUE COPPER OXIDES. NATIVE GOLD CONTAINING VERY LOW SILVER IS ASSOCIATED WITH IRON OXIDES (TETRA TECH, 2011).



THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH A STANDARD OF CARE ORDINARY AND CUSTOMARY WITHIN THE PRACTICE OF ENGINEERING. THE SCOPE OF RESPONSIBILITY OF THE UNDERSIGNED IS LIMITED SPECIFICALLY TO THE AREA OF PRACTICE OF CIVIL ENGINEERING DEFINED IN THE CALIFORNIA PROFESSIONAL ENGINEERS ACT.



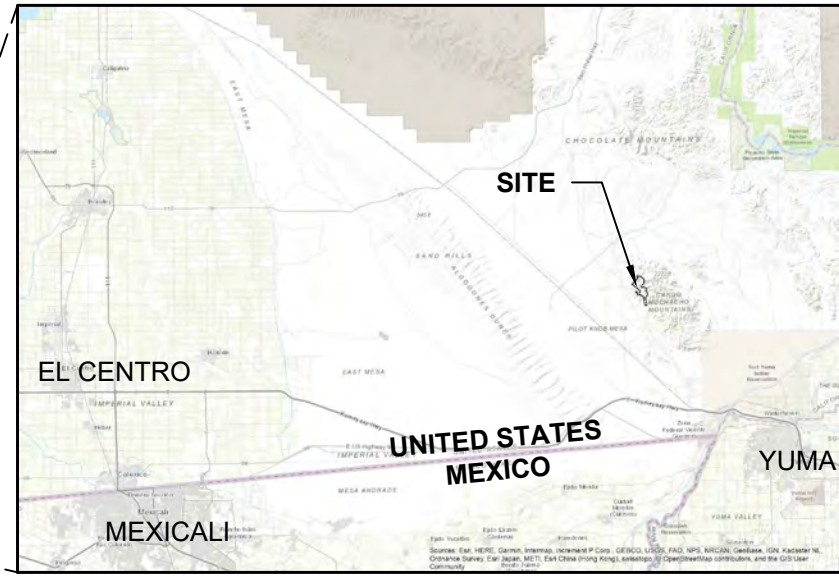
A. PEARCE SWERDFEGER R.C.E. 87466 EXP. 09-30-2021



SOURCE DATA:

- BOUNDARIES: ORO CRUZ CLAIM BOUNDARY: WESTLAND RESOURCES
- ORO CRUZ EXPLORATION: WESTLAND RESOURCES
- TOPOGRAPHY: LIDAR: EAGLE MAPPING LTD., FLIGHT DATE 01/15/2021
- GROUND CONTROL: DESERT SURVEYING & ENGINEERING, GORDON O. OLSON, PE, PLS (CA PLS NO. 7107)
- CONTOUR INTERVAL: 10 FEET
- DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
- VERT= NAVD88

<p>A Trinity Consultants Company. 374 Poli Street, Suite 200 • Ventura, CA 93001 (805) 275-1515 • www.sespeconsulting.com</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td></td> <td>04/21/21</td> <td>INITIAL DRAFT</td> <td>GJC</td> </tr> <tr> <td></td> <td>07/07/21</td> <td>UPDATED PORTAL STAGING AREA</td> <td>APS</td> </tr> </tbody> </table>		MARK	DATE	DESCRIPTION	BY		04/21/21	INITIAL DRAFT	GJC		07/07/21	UPDATED PORTAL STAGING AREA	APS	<p>SMP GOLD CORP. ORO CRUZ EXPLORATION PROJECT</p> <p>EXPLORATION PLAN</p>
		MARK	DATE	DESCRIPTION	BY											
	04/21/21	INITIAL DRAFT	GJC													
	07/07/21	UPDATED PORTAL STAGING AREA	APS													
<p>REVIEWED BY: _____</p> <p>DATE: _____</p>		<p>SCALE: HORZ AS SHOWN</p> <p>VERT AS SHOWN</p> <p>DRAWN BY: G. CAMUS</p> <p>CHECKED BY: APS</p>														
			<p>FIGURE 4</p>													



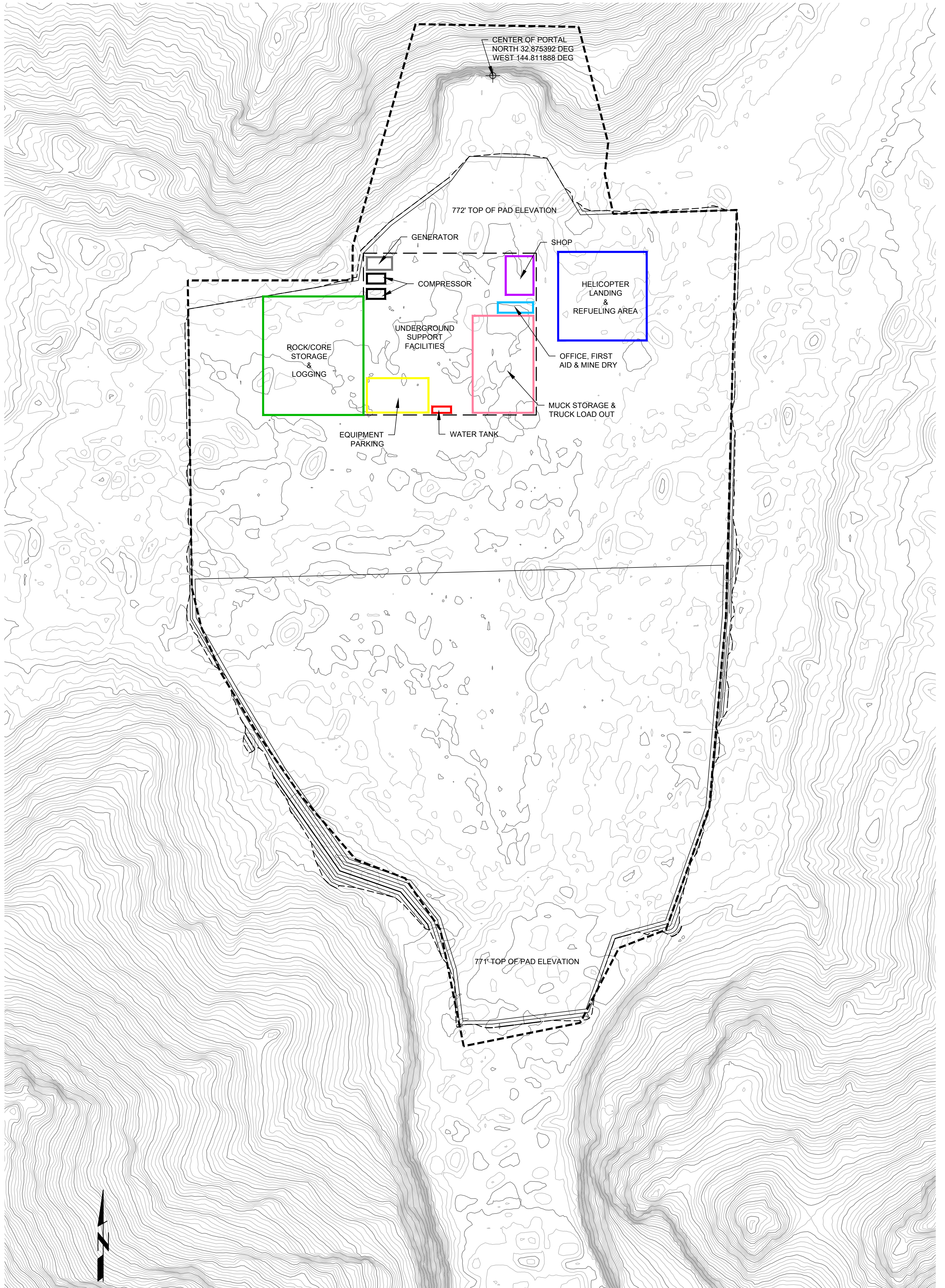
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LEGEND

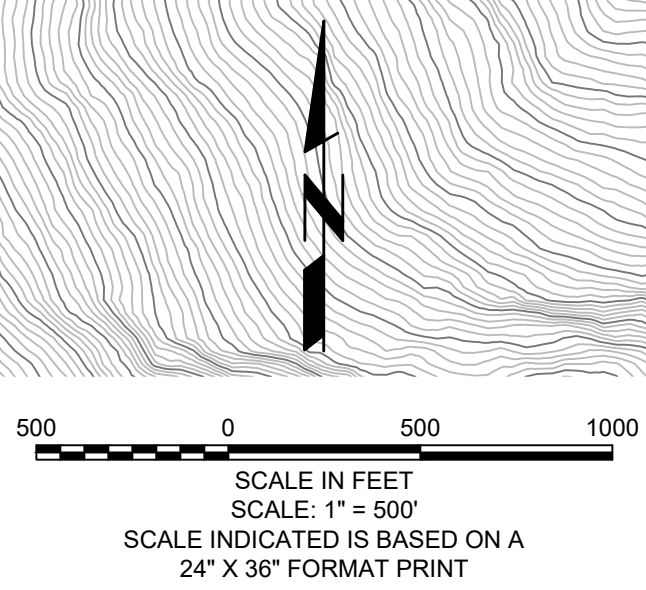
- EXISTING CONTOURS
- PAD CONTOURS



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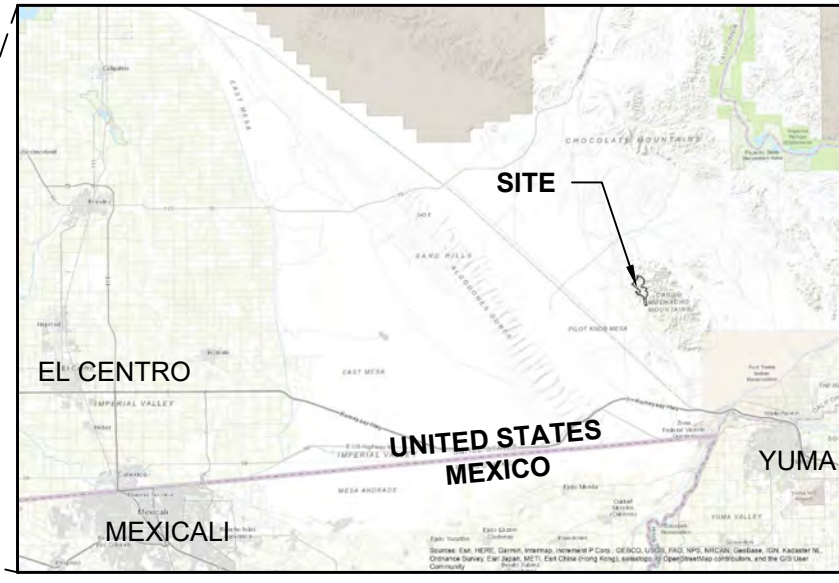
A. PEARCE SWERDFEGER R.C.E. 87466 EXP. 09-30-2021



SOURCE DATA:

BOUNDARIES:
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 ORO CRUZ EXPLORATION: WESTLAND RESOURCES
 TOPOGRAPHY:
 LIDAR: EAGLE MAPPING LTD., FLIGHT DATE 01/15/2021
 GROUND CONTROL: DESERT SURVEYING & ENGINEERING,
 GORDON O. OLSON, PE, PLS (CA PLS NO. 7107)
 CONTOUR INTERVAL: 10 FEET
 DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
 VERT= NAVD88

 SESPE CONSULTING, INC. <i>A Trinity Consultants Company.</i> 374 Poli Street, Suite 200 • Ventura, CA 93001 (805) 275-1515 • www.sespeconsulting.com	REVISIONS			SMP GOLD CORP. ORO CRUZ EXPLORATION PROJECT PORTAL STAGING AREA GRADING
	MARK	DATE	DESCRIPTION	
	06/16/21	INITIAL DRAFT	GJC	
REVIEWED BY:				SCALE: HORZ AS SHOWN
DATE				VERT AS SHOWN
DATE				DRAWN BY: G.CAMUS
DATE				CHECKED BY: APS
				FIGURE 5A



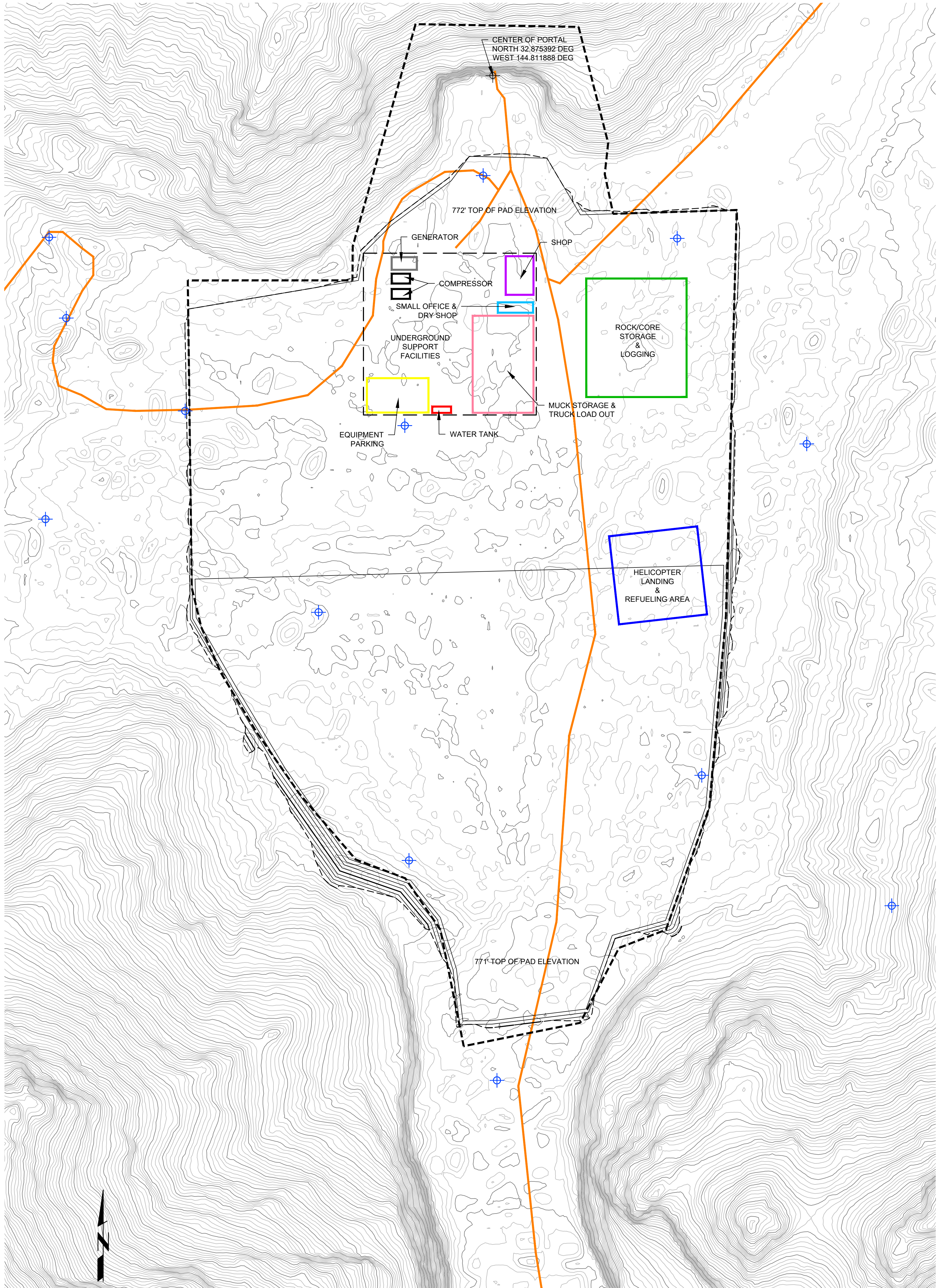
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LEGEND

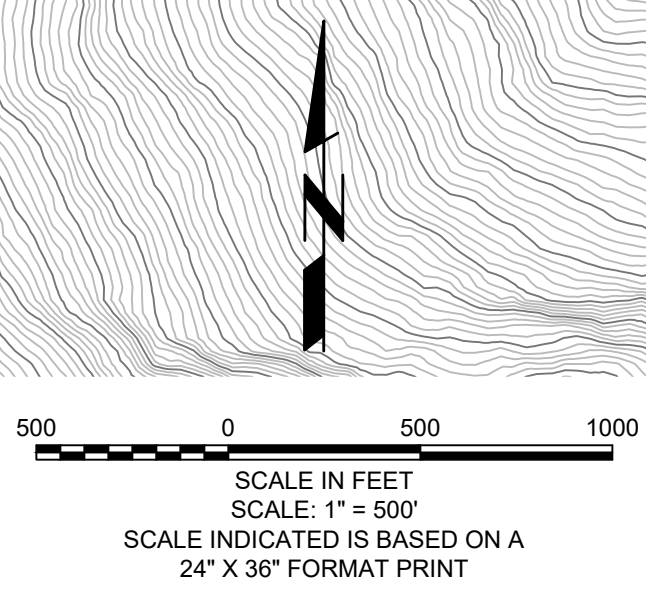
- EXISTING CONTOURS
- PAD CONTOURS
- NEW ACCESS ROAD
- POTENTIAL LOCATION OF ROAD-ACCESS RC OR CORE DRILL HOLE



THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH A STANDARD OF CARE ORDINARY AND CUSTOMARY WITHIN THE PRACTICE OF ENGINEERING. THE SCOPE OF RESPONSIBILITY OF THE UNDERSIGNED IS LIMITED SPECIFICALLY TO THE AREA OF PRACTICE OF CIVIL ENGINEERING DEFINED IN THE CALIFORNIA PROFESSIONAL ENGINEERS ACT.



A. PEARCE SWERDFEGER R.C.E. 87466 EXP. 09-30-2021

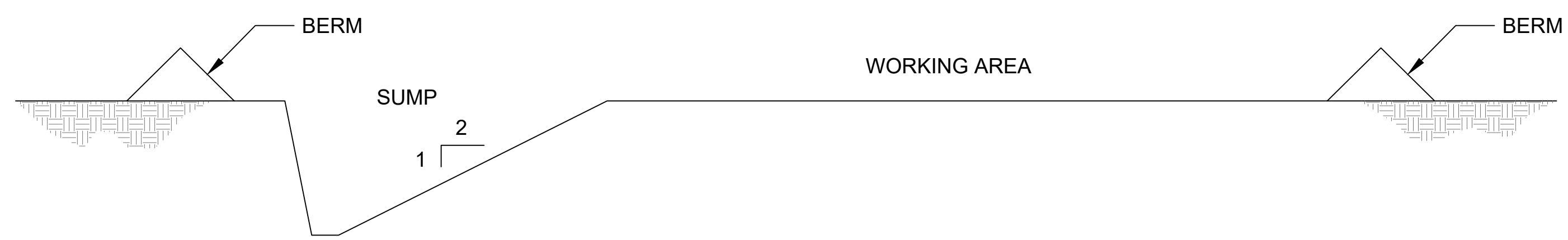
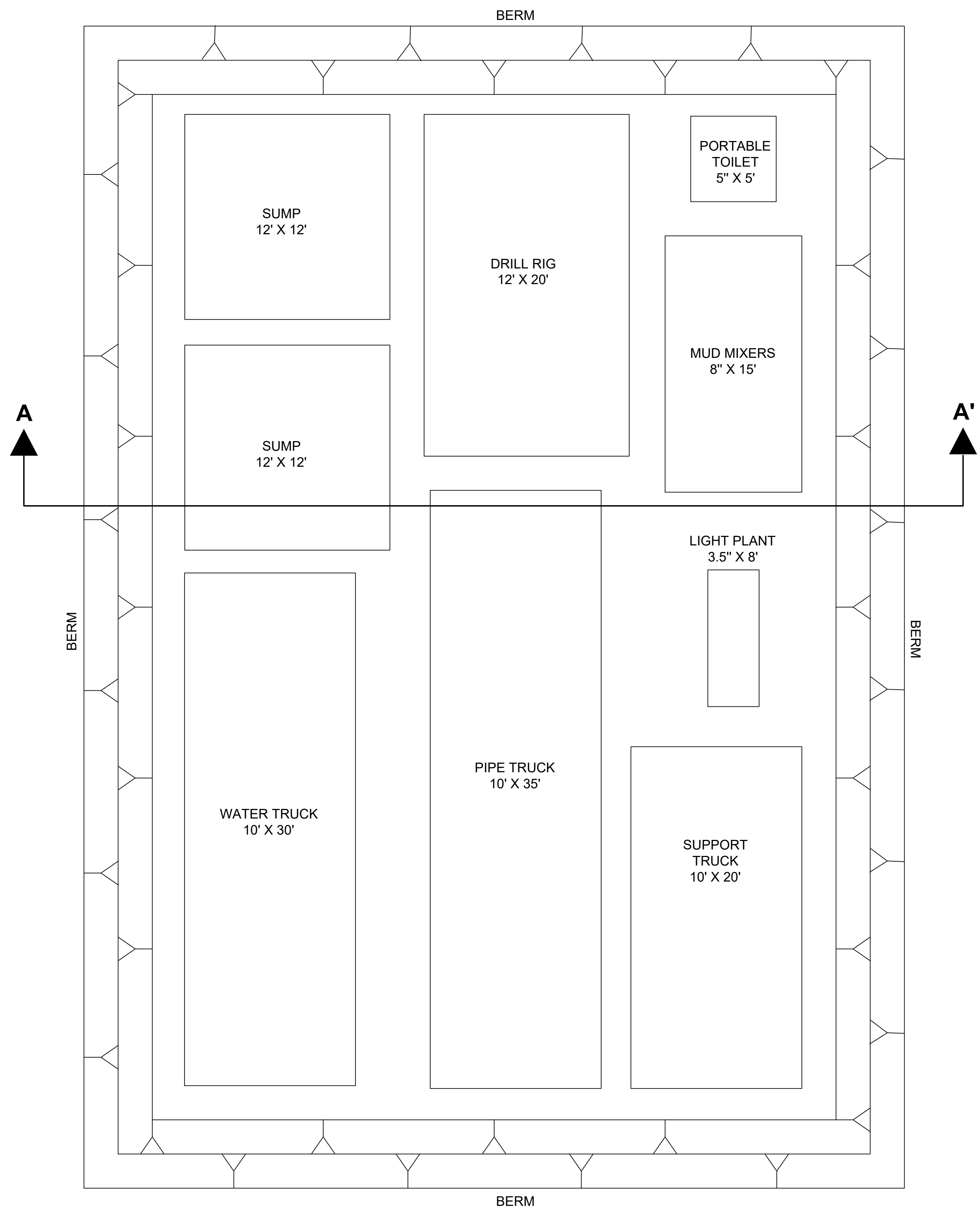


SOURCE DATA:

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 ORO CRUZ EXPLORATION: WESTLAND RESOURCES
 TOPOGRAPHY:
 LIDAR: EAGLE MAPPING LTD., FLIGHT DATE 01/15/2021
 GROUND CONTROL: DESERT SURVEYING & ENGINEERING,
 GORDON O. OLSON, PE, PLS (CA PLS NO. 7107)
 CONTOUR INTERVAL: 10 FEET
 DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
 VERT= NAVD88

 A Trinity Consultants Company. 374 Poli Street, Suite 200 • Ventura, CA 93001 (805) 275-1515 • www.sespeconsulting.com	REVISIONS			SMP GOLD CORP. ORO CRUZ EXPLORATION PROJECT PORTAL STAGING AREA GRADING
	MARK	DATE	DESCRIPTION	
	06/16/21	INITIAL DRAFT		GJC
REVIEWED BY:				SCALE: HORZ AS SHOWN
DATE				VERT AS SHOWN
DATE				DRAWN BY: G.CAMUS
DATE				CHECKED BY: APS

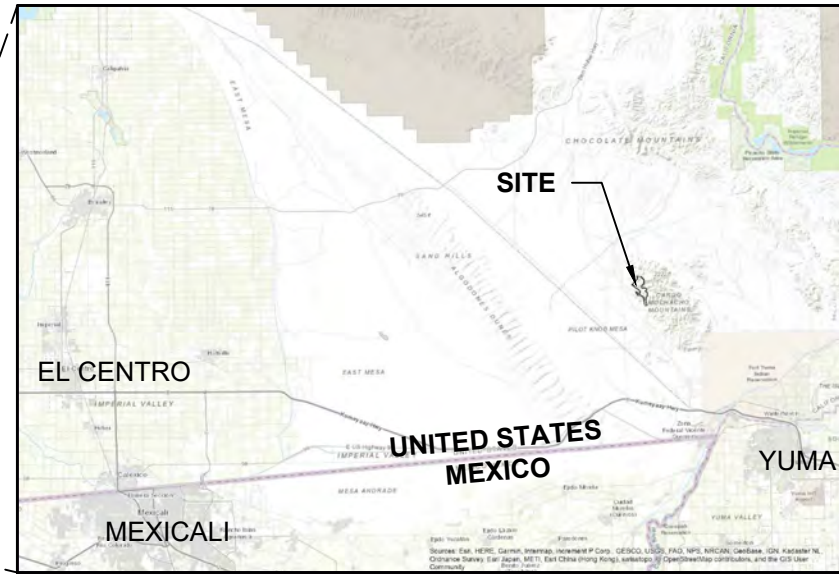
FIGURE 5A



SECTION A - A'

4 0 4 8
 SCALE IN FEET
 SCALE: 1" = 4'
 SCALE INDICATED IS BASED ON A
 24" X 36" FORMAT PRINT

<p>SESPE CONSULTING, INC.</p> <p>A Trinity Consultants Company. 374 Poli Street, Suite 200 • Ventura, CA 93001 (805) 275-1515 • www.sespeconsulting.com</p>		REVISIONS		SMP GOLD CORP. ORO CRUZ EXPLORATION PROJECT																				
		<table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td></td> <td>06/16/21</td> <td>INITIAL DRAFT</td> <td>GJC</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MARK			DATE	DESCRIPTION	BY		06/16/21	INITIAL DRAFT	GJC									<table border="1"> <thead> <tr> <th>SCALE</th> <th>HORIZ</th> <th>AS SHOWN</th> </tr> </thead> <tbody> <tr> <td></td> <td>VERT</td> <td>AS SHOWN</td> </tr> </tbody> </table>	SCALE	HORIZ	AS SHOWN
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REVIEWED BY:	DATE																							
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LEGEND:

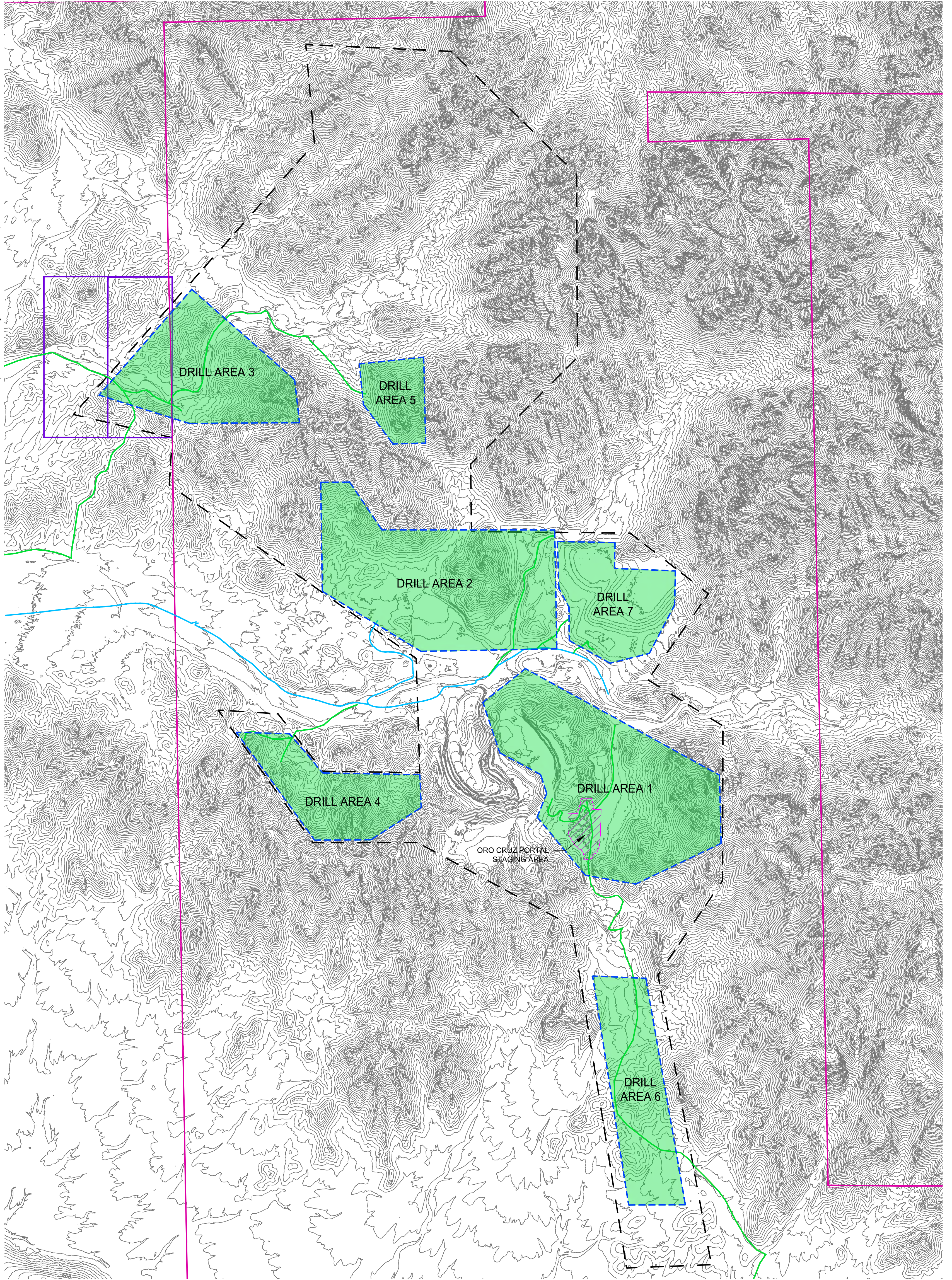
- ORO CRUZ RECLAMATION PLAN BOUNDARY
- RECLAIMED AREAS
- EXISTING CONTOURS
- ORO CRUZ CLAIM BOUNDARY
- NEW SMP CLAIM BOUNDARY
- EXISTING ACCESS ROAD (NO IMPROVEMENT REQUIRED)

RECLAMATION NOTES

1. PROJECT AREAS TO BE RECLAIMED WOULD BE CONVERTED TO LAND USES CONSISTENT WITH MINING, RECREATIONAL USES, AND OPEN SPACE.
2. RECLAMATION WILL BE COMPLETED CONCURRENTLY FOR EXPLORATION DRILLING ACTIVITIES (AS FEASIBLE), AND MONITORING FOR THE SUCCESS OF RECLAMATION OF THOSE AREAS WOULD BE COMPLETED WITHIN 5 YEARS OF PROJECT IMPLEMENTATION.
3. THE PROJECT MOBILIZATION, ROAD CONSTRUCTION, DRILLING, AND BOREHOLE ABANDONMENT WILL BE COMPLETED WITHIN APPROXIMATELY 4 MONTHS (FOLLOWING PROJECT INITIATION).
4. RECLAMATION ACTIVITIES AND SUBSEQUENT MONITORING FOR THE SUCCESS OF RECLAMATION OF THOSE AREAS WOULD BE COMPLETED WITHIN FIVE (5) YEARS OF PROJECT INITIATION.
5. WHERE NEEDED, ALL SLOPES AND FLOORS WILL BE FLATTENED TO ENSURE NO SLOPES EXCEED A 2H:1V (HORIZONTAL TO VERTICAL) ANGLE.
6. EACH EXPLORATORY BOREHOLE WILL BE ABANDONED IN ACCORDANCE WITH IMPERIAL COUNTY DRILL PERMIT CONDITIONS AND APPLICABLE STATE STANDARDS. THE MUD PITS WILL BE ALLOWED TO EVAPORATE AND THE STORED EXCAVATED MATERIALS WILL BE REINTRODUCED INTO THE PITS, FOLLOWED BY PUSHING ANY SALVAGED TOPSOIL/SUBSOILS. ONCE EACH PAD HAS BEEN GRADED AND CONTOURED, THEY WILL BE REVEGETATED USING THE SEED MIX BELOW.
7. NEW ROADS CONSTRUCTED AS PART OF THIS PROJECT WILL BE RECLAIMED BY PLACING RECOVERED TOPSOIL/SUBSOIL STORED ALONG THE ROADWAY EDGES, AND BLADING THE SURFACES PRIOR TO REVEGETATING USING THE SEED MIX BELOW.

REVEGETATION NOTES

1. REVEGETATION WILL ONLY OCCUR ON THOSE PORTIONS OF THE PROJECT AREA PROPOSED TO BE RECLAIMED TO OPEN SPACE.
2. THE PROPOSED NATIVE SEED MIXTURE WILL CONSIST OF THE FOLLOWING:
 - CREOSOTE BUSH (*LARREA TRIDENTATA*)
 - BURROBUSH (*AMBROSIA DUMOSA*)
 - BRITTLEBUSH (*ENCCELIA FARINOSA*)
 - DESERT SPINEFLOWER (*GERAEA CANESCENS*)
 - TURTLEBACK (*PSATHYROTES RAMOSISSIMA*)
 - FORGET-ME-NOT (*CRYPTANTHA SPP.*)
 - HAIRY PRAIRIE CLOVER (*DALEA MOLLIS*)
2. SEEDS WILL BE PURCHASED AND MIXED IN EQUAL QUANTITIES AND WILL BE HAND BROADCASTED AT APPROXIMATELY 10 POUNDS PER ACRE.
3. THE SEED MIXTURE IS SUBJECT TO CHANGE AND SHOULD BE VERIFIED BY A QUALIFIED BIOLOGIST PRIOR TO REVEGETATION.



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A. PEARCE SWERDFEGER R.C.E. 87466 EXP. 09-30-2023

SCALE IN FEET
SCALE: 1" = 500'
SCALE INDICATED IS BASED ON A 24" X 36" FORMAT PRINT

SOURCE DATA:

- BOUNDARIES:
ORO CRUZ CLAIM BOUNDARY: DIGITIZED BASED ON MINING CLAIM NOTICE OF LOCATIONS (AND AMENDMENTS) ON FILE WITH THE IMPERIAL COUNTY CLERK-RECORDER (SEE APPENDIX C)
- TOPOGRAPHY:
LIDAR: EAGLE MAPPING LTD., FLIGHT DATE 01/15/2021
GROUND CONTROL: DESERT SURVEYING & ENGINEERING, GORDON O. OLSON, PE, PLS (CA PLS NO. 7107)
- CONTOUR INTERVAL: 10 FEET
- DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
VERT= NAVD88

<p>A Trinity Consultants Company. 374 Poli Street, Suite 200 • Ventura, CA 93001 (805) 275-1515 • www.sespeconsulting.com</p>		REVISIONS		SMP GOLD CORP. ORO CRUZ EXPLORATION PROJECT RECLAMATION PLAN														
		<table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td></td> <td>04/12/21</td> <td>INITIAL DRAFT</td> <td>GJC</td> </tr> <tr> <td></td> <td>07/07/21</td> <td>UPDATED PORTAL STAGING AREA</td> <td>APS</td> </tr> <tr> <td></td> <td>09/22/22</td> <td>ADMINISTRATIVE REVISIONS</td> <td>APS</td> </tr> </tbody> </table>	MARK		DATE	DESCRIPTION	BY		04/12/21	INITIAL DRAFT	GJC		07/07/21	UPDATED PORTAL STAGING AREA	APS		09/22/22	ADMINISTRATIVE REVISIONS
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APPENDIX A

Revegetation Plan – Oro Cruz Exploration Project
(WestLand Resources, Inc., 2021)

**SMP GOLD CORP.
ORO CRUZ EXPLORATION PROJECT
REVEGETATION PLAN**

Prepared for: SMP GOLD CORP.
Prepared by: WestLand Resources, Inc.
Date: June 11, 2021
Project No.: 2072.03 13

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(follow text)

- Figure 1. Vicinity Map
- Figure 2. Project Location
- Figure 3. Vegetation Classifications

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- Appendix A. Representative Photographs

I. INTRODUCTION AND BACKGROUND

SMP Gold Corp. (SMP) proposes mineral exploration activities at the Oro Cruz Pit Area (the Project) within lands administered by the Bureau of Land Management (BLM), northwest of Yuma, Arizona, in Imperial County, California. The Project is located on previously mined BLM lands within Township 15 South, Range 20 East, Sections 1, 2, 12, and 13, and Township 15 South, Range 21 East, Sections 6, 7, and 18 (the Project Area, **Figures 1 and 2**) that are managed by the El Centro Field Office. The Project Area includes seven drill areas and access roads (**Figure 2**). Within these areas, the Project entails 21.1 acres of surface disturbance. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

Activities would be conducted in accordance with BLM regulations published in the Code of Federal Regulations (CFR) at 43 CFR part 3809 (BLM 2016) and 43 CFR 3715 (BLM 1998). Pursuant to 43 CFR 3809.21 and 3809.301, the Project would result in minor surface reworking of previously mined and disturbed areas, and measures would be taken to prevent unnecessary or undue degradation during Project operations. The Project would comply with the performance standards in 43 CFR 3809.420 and other Federal and state laws related to environmental protection and protection of cultural resources; the Project is “reasonably incident” to mining as defined in 43 CFR 3715.0-5; and the Project would attain the stated level of protection and reclamation required by specific laws in the California Desert Conservation Area. The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations.

The Project is described in the Draft Exploration Plan of Operations (Plan) dated December 17, 2020. The BLM has reviewed the Plan and has determined that the filed Plan meets the content requirements at 43 CFR 3809.401(b).

2. PROJECT AREA DESCRIPTION

Vegetation in the Project Area is low desert scrub typical of the high temperature region of southeastern California. In general, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*). In addition, large portions of the Project Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summation, vegetation in the Project Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats. Representative photographs of the Project Area are provided in **Appendix A**.

For the purposes of vegetation mapping, an Analysis Area that encompasses the proposed disturbance on seven drill areas and associated access roads was defined (**Figure 3**). A total of 37 plant species were identified during field surveys within the Analysis Area (**Table 1**). Plant species observations do not represent a complete floristic survey. Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7 (**Figure 3**).

Brassica (nigra) and other mustards semi-natural stands

Brassica (nigra) and other mustards semi-natural stands vegetation category occupies approximately 18% of the Analysis Area and 24% of the Project Area (**Figure 3**). This vegetation category corresponds with disturbed and barren areas. Although the named dominant species, black mustard (*Brassica nigra*), was not observed, Saharan mustard (*Brassica tournefortii*), a closely related non-native mustard was often present in both naturally disturbed areas including wash scour and human-disturbed areas such as roads, camp sites, and rock waste piles. This natural community is not classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Parkinsonia florida—Olneya tesota alliance

Parkinsonia florida—Olneya tesota alliance occupies approximately 2% of the Analysis Area and 2% of the Project Area (**Figure 3**). The vegetation category is primarily restricted to xeroriparian areas including washes, drainages and narrow canyons. Besides the named alliance's dominant plants, blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), other commonly occurring plants include sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo (*Fouquieria splendens*) and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Larrea tridentata — Encelia farinosa alliance

Larrea tridentata — Encelia farinosa alliance occupies approximately 79% of the Analysis Area and 74% of the Project Area and occurs in a variety of topographic settings (**Figure 3**). Besides the named alliance's dominant plants, creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*), other commonly occurring plants include ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobush (*Ambrosia dumosa*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Table I. Plant Species Observed in the Analysis Area During the Field Survey

This list represents species observed during the field survey and does not represent a complete floristic survey.

Common Name	Scientific Name	Common Name	Scientific Name
PLANTS			
PERENNIALS			
burrobush	<i>Ambrosia dumosa</i>	beavertail pricklypear	<i>Opuntia basilaris</i>
burrobush	<i>Ambrosia salsola</i>	blue paloverde	<i>Parkinsonia florida</i>
western milkweed	<i>Asclepias albicans</i>	Schott's pygmycedar	<i>Peucephyllum schottii</i>
sweetbush	<i>Bebbia juncea</i>	velvet turtleback	<i>Psathyrotes ramosissima</i>
Paloverde	<i>Cercidium floridum</i>	desert globemallow	<i>Sphaeralcea ambigua</i>
pink fairyduster	<i>Cylindropuntia erophylla</i>	Mesquite	<i>Prosopis juliflora</i>
hairy prairie clover	<i>Dalea mollis</i>	Tamarisk*	<i>Tamarix pentandra</i>
narrowleaf silverbush	<i>Ditaxis lanceolata</i>	American threefold	<i>Trixis californica</i>
Inciensio	<i>Encelia farinosa</i>	ANNUALS	
rough jointfir	<i>Ephedra aspera</i>	sixweeks threeawn	<i>Aristida adscensionis</i>
desert trumpet	<i>Eriogonum inflatum</i>	Asian mustard*	<i>Brassica tournefortii</i>
California fagonbush	<i>Fagonia laevis</i>	brittle spineflower	<i>Chorizanthe brevicornu</i>
California barrel cactus	<i>Ferocactus cylindraceus</i>	devil's spineflower	<i>Chorizanthe rigida</i>
ocotillo	<i>Fouquieria splendens</i>	pygmy poppy	<i>Eschscholzia minutiflora</i>
paleface	<i>Hibiscus denudatus</i>	Arizona lupine	<i>Lupinus arizonicus</i>
desert lavender	<i>Hyptis emoryi</i>	Mojave desertstar	<i>Monoptilon bellioides</i>
creosote	<i>Larrea tridentata</i>	desert palafox	<i>Palafoxia arida var. arida</i>
water jacket	<i>Lycium andersonii</i>	clefleaf phacelia	<i>Phacelia crenulata</i>
Parry's false prairie-clover	<i>Marina parryi</i>	desert Indianwheat	<i>Plantago ovata</i>
desert wishbone-bush	<i>Mirabilis laevis</i>	yellowdome	<i>Trichoptilium incisum</i>
desert tobacco	<i>Nicotiana obtusifolia</i>		
ironwood	<i>Olneya tesota</i>		
		*non-native	

3. RECLAMATION AND REVEGETATION PLAN OVERVIEW

The intent of the California Surface Mining and Reclamation Act (SMARA) is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of aggregates are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated" (Section 2712). Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article. The standards shall apply to each surface mining operation to the extent that:

- They are consistent with required mitigation identified in conformance with CEQA; and
- They are consistent with the planned or actual subsequent use or uses of the site."

The Oro Cruz Exploration Project Reclamation Plan prepared by Sespe Consulting Inc. (2021) describes the Reclamation Plan for reclaiming land disturbed by exploration drilling within the Project Area, as required under SMARA. This Reclamation Plan addresses the reclamation activities that will be undertaken following completion of the exploratory drilling, in conformance with SMARA.

The anticipated post-Project land uses are mining, recreational uses, and open space. Following the completion of all drilling, solids, and desiccated drilling muds that have been contained in the sump would be treated by evaporation and by allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would then be backfilled. The drilling muds that would be used do not contain toxic or deleterious materials. The proposed drilling mud material data sheets could be provided to BLM upon request. The inert drilling mud materials would be disposed of in accordance with applicable state and federal regulations. The drill site, mud pits, and outer berm would then be returned to natural grade with a track hoe using rocks and soil set aside during site construction and mud pit excavation.

This technical memorandum describes the revegetation plan associated with the planned reclamation.

Reclaimed areas would be revegetated with a BLM-approved seed mix. These areas would be revegetated after cover placement and at the appropriate time of the year for optimum seed germination and plant growth.

4. SITE PREPARATION

The revegetation plan is based on those portions of the Project Area proposed to be reclaimed to open space. For those portions of the Project Area to be reclaimed for future mining and/or recreational uses, revegetation may not be feasible and/or appropriate.

Following completion of exploratory drilling, equipment demobilization and surface preparation of the roads and drill pads, the following typical sequence of revegetation activities will be undertaken:

- Installation of erosion control devices, such as waddles, where necessary;
- Application of seed mix either by hydroseeding or mechanical broadcasting; and
- Maintenance and monitoring.

Generally, initial seedbed preparation on flatter surfaces would include ripping or discing the surface along contours. Conventional seeding techniques (including drill and broadcast) would be used as appropriate depending on soil/cover characteristics and landform. Hydroseed, hydromulch, and

tackifier may be used on slopes that are not suitable for conventional seeding. Mulch may be applied to minimize erosion and promote moisture retention where appropriate.

Prior to application of the seed mix, the final contours, hydrology, and soils composition of the revegetation areas will be reviewed by a qualified biologist/revegetation specialist to determine the optimal broadcast rates and make any appropriate modifications to the overall revegetation plan.

Areas to be revegetated will be prepared as follows:

- Vegetation, trash, debris, and weeds will be cleared. All weeds will be removed from the area and properly disposed of offsite.
- Any eroded areas will be repaired uniformly without leaving holes or depressions that would potentially prohibit plant growth.
- Compacted areas will be ripped to a depth of one foot and left in a textured or rough condition with shallow rills and furrows to create optimal conditions for revegetation.
- Any salvaged plants will be replanted on the pads and roads in a random pattern.
- A native plant seed mix will be broadcast at a rate recommended by the BLM and Imperial County which will include a mixture of shrubs, native grasses, and annuals; and
- The seeds will be covered by hand-rake or using a chain attached to a small tractor with any salvaged top soil to protect the seeds from desiccation and predation.

5. CONTROL OF WEEDS AND NON-NATIVE VEGETATION

The predominance of exotic, invasive weed species throughout California has presented a formidable challenge to most revegetation projects. Weed species are opportunistic and have mechanisms for dispersal and establishment that can eventually lead to displacement of native species. To ensure that weed species competition is controlled, the Project site areas will be inspected by the qualified biologist/revegetation specialist prior to revegetation implementation. The qualified biologist/revegetation specialist will also determine the most effective treatments for control of invasive species. If weed control activities are necessary, they will likely include a combination of treatments such as herbicide application, hand removal, and soil solarization.

Non-native invasive plants that threaten California's wildlands have been categorized by the California Invasive Plant Council (Cal-IPC). Invasive plants that have been classified by Cal-IPC as "High" (severe ecological impacts on physical processes, plant and animal communities, and vegetation structure) or "Moderate" (substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure) in terms of ecological threat will be controlled as necessary within the revegetation areas for up to three (3) years in order to prevent aggressive weeds from out-competing native plant species for resources (e.g., space, water, nutrients, and light). These invasive weeds will be removed mechanically, if feasible. In circumstances

where mechanical control is not effective, EPA-approved systemic herbicides may be used. Herbicides will be applied under the direction of a licensed applicator.

Prior to initiation of revegetation efforts, the biologist will consult the most recent Cal-IPC list, and a list of specific species to be controlled under this Reclamation Plan will be developed. Additional species may be added to the list based on actual conditions and the recommendation of the qualified biologist/revegetation specialist.

6. SEED MIX

Revegetation would require site-appropriate, BLM-approved native seed mixtures. A diverse native plant community would be targeted through the definition of seed mixtures and application rates. The seed mix list would be reviewed before revegetation activities are initiated to confirm the availability of the seeds, and the list would be adjusted as needed. The seed mix and mulch materials would be certified by the revegetation contractor to be relatively weed free.

The proposed native seed mixture will consist of the following: creosotebush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), desert spineflower (*Geraea canescens*), turtleback (*Psathyrotes ramosissima*), forget-me-not (*Cryptantha* spp.), and hairy prairie clover (*Dalea mollis*). Seeds will be purchased and mixed in equal quantities and will be hand broadcasted at approximately 10 pounds per acre (**Table 2**). If any part of the proposed seed mixture is not commercially available at the time of purchase, BLM will be consulted to identify appropriate and available replacements for the seed mixture.

Table 2. Native Live Seed Mixture

Common Name	Scientific Name	Pounds/Acre
creosotebush	<i>Larrea tridentata</i>	3
burrobush	<i>Ambrosia dumosa</i>	3
brittlebush	<i>Encelia farinosa</i>	1.5
desert spineflower	<i>Geraea canescens</i>	1
turtleback	<i>Psathyrotes ramosissima</i>	0.5
forget-me-not	<i>Cryptantha</i> spp.	0.5
hairy prairie clover	<i>Dalea mollis</i>	0.5
Total		10

The seed mix would be designed to meet the following criteria:

- Native non-invasive species that have a high compatibility with the existing landscape;
- Species and plant type diversity to promote a sustainable vegetative cover throughout the seasonal changes and other climate related variances; and
- Species and plant type diversity to promote a variety of germination periods and seasonal growth.

7. SUCCESS CRITERIA

The basic goal of revegetation is to re-establish self-sustaining native plant communities within the disturbed areas. California Code of Regulations (CCR) Section 3705(m) requires that reclaimed revegetated sites be "similar to naturally occurring habitats in the surrounding area." In order to accomplish this revegetation will be deemed successful upon achieving 25 percent of the vegetative cover of adjacent similar vegetation. Because the specific locations of drill pads are not known at this time and flexibility is built into the project to allow for adaptation of exact locations based on drilling results, comparison sites will be chosen in field once the exact drill pad locations are identified. This is an appropriate success criterium for the following reasons:

- The Project will entail only a small amount of total disturbance, and much of this will be within areas that have been previously disturbed.
- The Project contemplates temporary activities over a relatively short time period.
- The Project Area has been previously disturbed from past mining activities, and there is a striking lack of vegetation throughout the Project Area. Vegetation in both the uplands and washes is sparse with limited vegetation cover (**Appendix A**).
- The planned revegetation effort is planned to enhance the success of the revegetation and will augment the reseeding that will occur naturally.

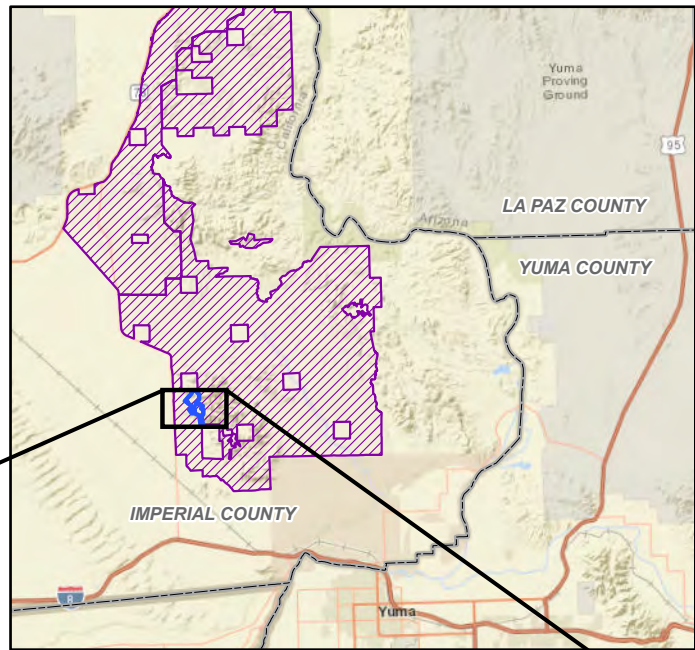
FIGURES

CALIFORNIA

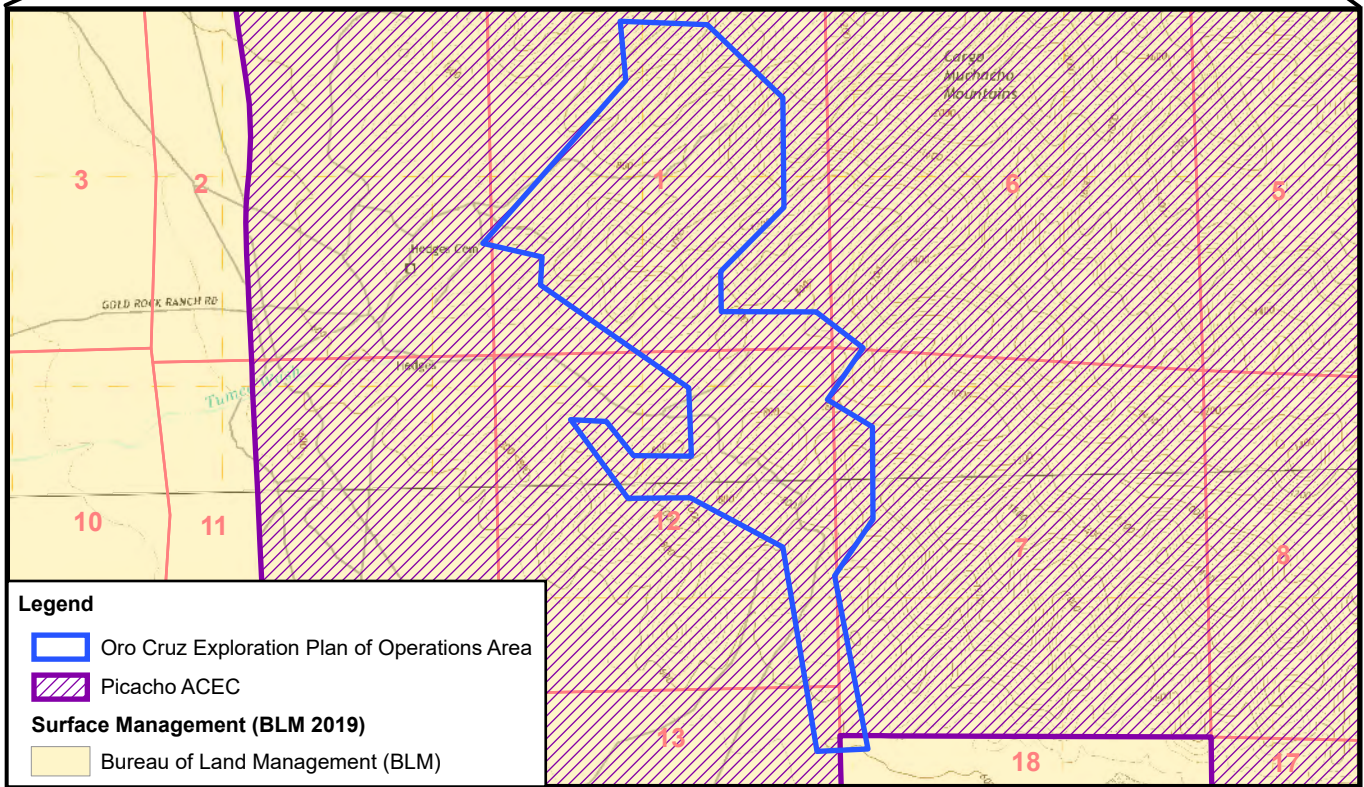


PROJECT LOCATION

PROJECT VICINITY



Approximate Scale 1 Inch = 12 Miles



T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
 Data Source: SMP
 Image Source: ArcGIS Online, World Street Map

SMP GOLD CORP.
Oro Cruz Exploration Project
Revegetation Plan

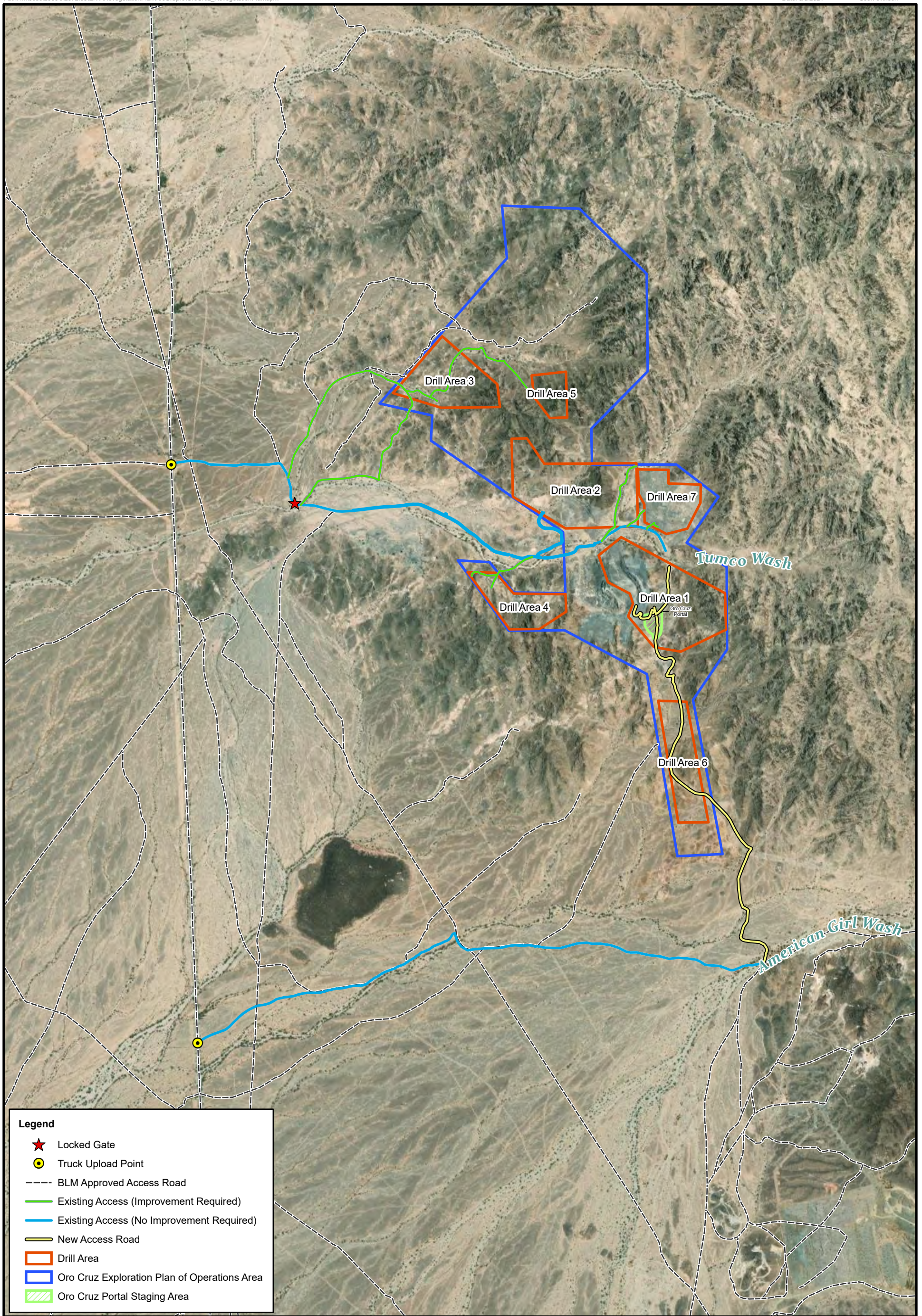
VICINITY MAP

Figure 1



0 1,500 3,000
 Feet

0 500 1,000
 Meters



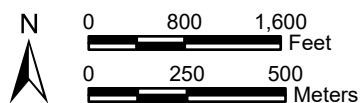
Legend

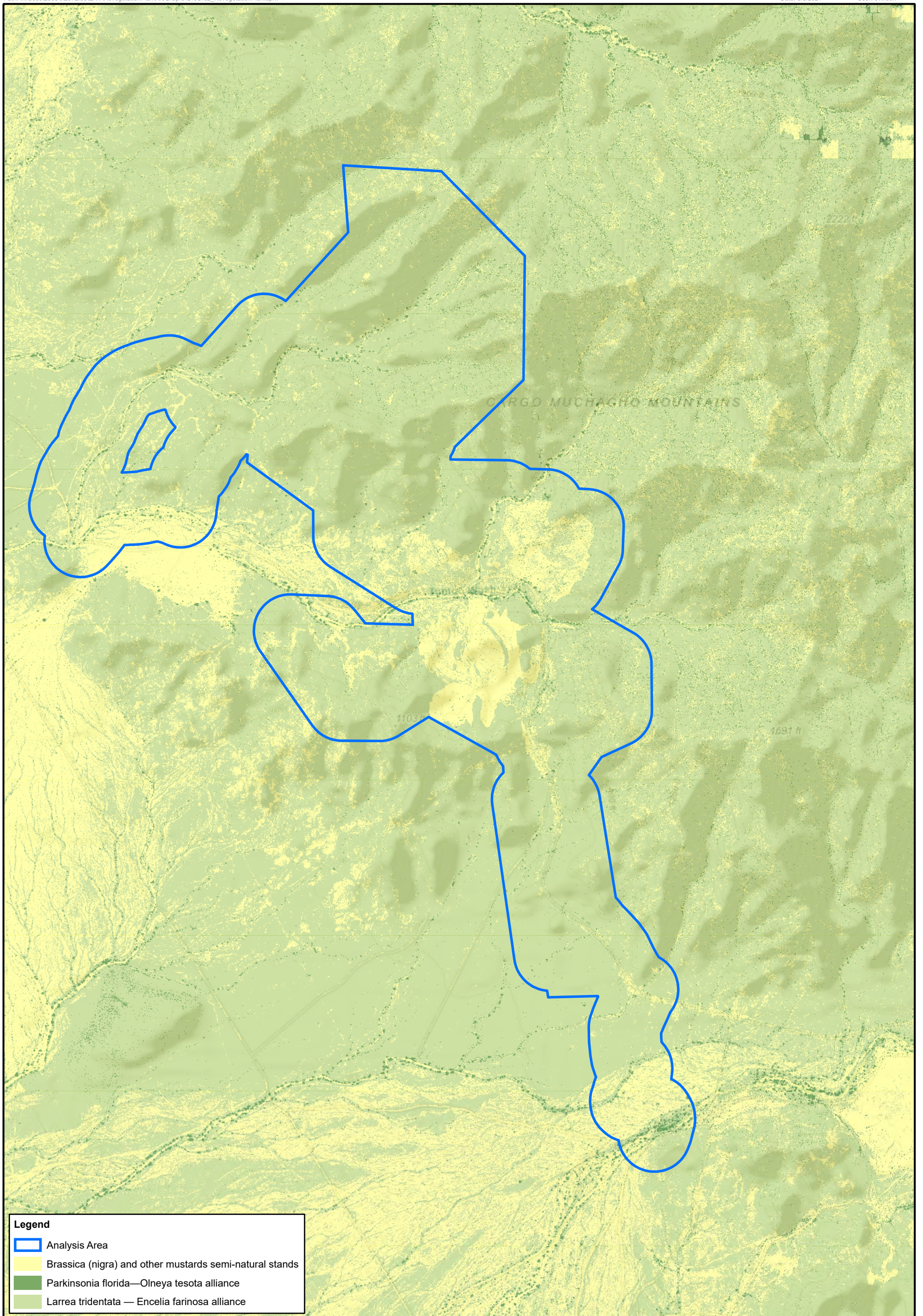
- ★ Locked Gate
- Truck Upload Point
- BLM Approved Access Road
- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Drill Area
- Oro Cruz Exploration Plan of Operations Area
- ▨ Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018

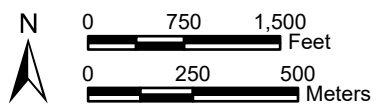
SMP GOLD CORP.
 Oro Cruz Exploration Project
 Revegetation Plan

PROJECT LOCATION
 Figure 2





T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Imperial County, California,
 Data Source: SMP
 Image Source: Supervised Classification from NAIP 2020



SMP GOLD CORP.
 Oro Cruz Exploration Project
 Revegetation Plan
 VEGETATION CLASSIFICATION
 Figure 3

APPENDIX A
Representative
Photographs



Photo 1.
Drill Area 1



Photo 2.
Drill Area 1



Photo 3.
Drill Area 2



Photo 4.
Drill Area 2



Photo 5.
Drill Area 3



Photo 6.
Drill Area 3



Photo 7.
Drill Area 4



Photo 8.
Drill Area 4



Photo 9.
Drill Area 5



Photo 10.
Drill Area 5



Photo 11.
Drill Area 6



Photo 12.
Drill Area 6



Photo 13.
Access Road to Drill Area 6



Photo 14.
Drill Area 7



Photo 15.
Drill Area 7

APPENDIX B

Biological Resources Assessment – Oro Cruz Exploration Project
(WestLand Resources, Inc., 2021)

**BIOLOGICAL RESOURCE TECHNICAL REPORT
AND ASSESSMENT
ORO CRUZ EXPLORATION PROJECT
SMP Gold Corp.**

Prepared for:

Bureau of Land Management, El Centro Field Office

1661 S 4th St.

El Centro, CA 92243

Project Number: 2072.03

June 30, 2021




WestLand Resources

WestLand Resources, Inc. • 4001 E. Paradise Falls Drive • Tucson, Arizona 85712 • 520•206•9585

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- Figure 7. Special-Status Species Historical Occurrences within the Analysis Area

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EXECUTIVE SUMMARY

Southern Empire Resources Corp. (SMP) is proposing mineral exploration activities, the Oro Cruz Pit Area Exploration Project, on lands managed by the Bureau of Land Management (BLM) in the Cargo Muchacho Mountains of Imperial County in southeastern California (the Project) (**Figures 1 and 2**). The BLM Exploration Plan of Operations (EPO) consists of an approximately 600-acre area (**Figure 2**). Within the EPO the Project Area consists of seven drill pads and associated access roads, totaling 21.1 acres of surface disturbance (**Figure 2**). The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

WestLand Resources, Inc. (WestLand) was retained to complete a combined BLM Biological Resource Technical Report (BRTR) to support environmental review of the Project by the BLM and a Biological Resource Assessment (BRA) to support environmental review by Imperial County under the California Environmental Quality Act (CEQA). This combined BRTR/BRA documents desktop and field studies and provides an assessment of the potential to occur for special-status species in the vicinity of the Project.

Existing Vegetation

Within the Analysis Area, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*). In addition, large portions of the Analysis Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summation, vegetation in the Analysis Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats.

A total of 41 plant species were identified during field surveys within the Analysis Area in March 2021. Plant species observations do not represent a complete floristic survey. Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7.

California Native Plant Society vegetation categories observed within the Analysis Area and Project Area (**Figure 5**). These vegetation categories include *Brassica (nigra)* and other mustards semi-natural stands (18 percent of the Analysis Area and 24 percent of the Project Area), *Parkinsonia florida*—*Olneya tesota* alliance (2 percent of the Analysis Area and 2 percent of the Project Area), and *Larrea tridentata* — *Encelia farinosa* alliance (79 percent of the Analysis Area and 4 percent of the Project Area).

Special-Status Plant Species

A screening analysis was conducted to determine the potential for special status plant species to occur in the Analysis Area. The following were analyzed:

1. Plant species designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system.
2. Plant species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
3. Plant species identified for analysis under the California Environmental Quality Act (CEQA), including Plants designated as special-status by the California Native Plant Society (CNPS).

Three special status plant species, Munz cholla (*Cylindropuntia munzii*), Flat-seeded spurge (*Euphorbia platysperma*), and Pink fairy-duster (*Calliandra erophylla*), were determined to have a possible presence or a high potential to occur in the Analysis Area.

Existing Wildlife Species

During field survey conducted in March 2021 a total of 26 wildlife species were observed.

A screening analysis was conducted to determine the potential for special status wildlife species to occur in the Analysis Area. The following were analyzed:

1. Species and critical habitat designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system.
2. Species protected under the Bald and Golden Eagle Protection Act (BGEPA).
3. Species designated as sensitive per the El Centro Field Office BLM list of California sensitive species.
4. Species identified for analysis under the CEQA, including California Department of Fish and Wildlife (CDFW) Species of Special Concern; species designated as USFWS Birds of Conservation Concern; CDFW special-status invertebrates; and Species of bat listed as high and medium priority by the Western Bat Working Group.

One ESA listed species, the threatened Mohave Desert tortoise (*Gopherus agassizii*), was determined to be present the Analysis Area. No designated or proposed critical habitat occurs within the Project Area.

Three bats, pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and greater western mastiff bat (*Eumops perotis californicus*), that are listed as BLM Sensitive and State-Ranked in the

California Natural Diversity Database (CNDDDB) were determined to be present in the Analysis Area; and 2 bats, small-footed myotis (*Myotis ciliolabrum*) and cave myotis (*Myotis velifer*), that are also listed as BLM Sensitive and State-Ranked in the CNDDDB were determined to have a possible presence in the Analysis Area.

Two birds, Prairie falcon (*Falco mexicanus*) and Black-tailed gnatcatcher (*Polyptila melanura*) that are State-Ranked in the CNDDDB were determined to have a high potential to occur in the Analysis Area.

One lizard, Colorado Desert fringe-toed lizard (*Uma notata*), that is listed as BLM Sensitive and State-Ranked in the CNDDDB was determined to be present in the Analysis Area.

I. INTRODUCTION

Southern Empire Resources Corp. (SMP) is proposing mineral exploration activities, the Oro Cruz Pit Area Exploration Project, on lands managed by the Bureau of Land Management (BLM) in the Cargo Muchacho Mountains of Imperial County in southeastern California (the Project) (**Figures 1 and 2**). The BLM Exploration Plan of Operations (EPO) consists of an approximately 600-acre area (**Figure 2**). Within the EPO the Project Area consists of seven drill pads and associated access roads, totaling 21.1 acres of surface disturbance (**Figure 2**). The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

WestLand Resources, Inc. (WestLand) was retained to complete a combined BLM Biological Resource Technical Report (BRTR) to support environmental review of the Project by the BLM and a Biological Resource Assessment (BRA) to support environmental review by Imperial County under the California Environmental Quality Act (CEQA). This combined BRTR/BRA documents desktop and field studies and provides an assessment of the potential to occur for special-status species in the vicinity of the Project. An assessment of drainage features, including the potential for Waters of the U.S. and Waters of the State are being provided under separate cover.

For the purpose of this report, special-status species are defined as species designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), species listed under the Bald and Golden Eagle Protection Act (BGEPA), those species designated as sensitive by the BLM El Centro Field Office, and species reviewed to support Imperial County's CEQA process.

The following sections provide a Project description and location (**Section 2**), regulatory overview (**Section 3**), environmental setting (**Section 4**), methods (**Section 5**), results (**Section 6**), and references cited (**Section 7**).

2. PROJECT DESCRIPTION AND LOCATION

Within the Analysis Area, the disturbance occurs on seven drill areas and associated access roads (**Figure 2**). Within these areas, the Project entails 21.1 acres of surface disturbance. The Analysis Area is in Imperial County, California and occurs within portions of Township 15 South, Ranges 20 and 21 East. The Project Area is located approximately 7 miles north of Ogilby, California, eight miles northwest of Yuma, Arizona, 45 miles southeast of Blythe, California and 50 miles east of El Centro, California (**Figure 1**). To evaluate the special-status species potential to occur, a broader Analysis Area consisting of the drill exploration areas and access roads and a 500-foot buffer around these was established (**Figure 2**). Additionally, a 2-mile buffer around the drill areas and associated access roads where surface disturbance would occur was established as the Raptor Survey Area (**Figure 3**).

3. REGULATORY OVERVIEW

3.1. ENDANGERED SPECIES ACT

The USFWS and the National Marine Fisheries Service (NMFS) are the agencies responsible for implementing the federal Endangered Species Act (ESA) of 1973 (16 USC Section 1531 et seq.). Under the ESA, threatened and endangered species on the federal list and their habitats (50 CFR Subsection 17.11, 17.12) are protected from “take” (i.e., activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) as well as any attempt to engage in any such conduct, unless a Section 10 permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are provided to a lead federal agency. Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present within the study area and vicinity and determine whether the proposed project will have potential impacts upon such species.

3.2. BALD AND GOLDEN EAGLE PROTECTION ACT

The BGEPA (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

3.3. MIGRATORY BIRD TREATY ACT

Most bird species, especially those that are breeding, migrating, or of limited distribution, are protected under federal and/or State regulations. Under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Subsection 703-712) and USFWS regulations (50 CFR § 10.14), migratory bird species, their nests, and their eggs are protected from injury or death as a result of activities specifically directed at migratory birds. The USFWS recently proposed to revoke the existing regulations governing the implementation of the MBTA (86 FR 87: 24573-24581), effectively returning the interpretation of the prohibitions of the MBTA and enforcement discretion of the USFWS to the uncertainty associated with the split decisions among Federal Circuit Courts regarding the scope of the MBTA’s take prohibition.

3.4. CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) prohibits the take of State-listed threatened and endangered species. Under the CESA, the California Department of Fish and Wildlife (CDFW) is responsible for maintaining a list of rare, threatened, and endangered species designated under State law (California Fish and Game Code 2070-2079). The CDFW also maintains lists of candidate species, species of special concern, and fully protected species. Candidate species are those taxa which have

been formally recognized by the CDFW and are under review for addition to the State threatened and endangered list. Species of special concern are those taxa, which are considered sensitive, and this list serves as a “watch list.” Pursuant to the requirements of the CESA, agencies reviewing proposed projects within their jurisdictions must determine whether any State-listed species have the potential to occur within a proposed project site and if the proposed project would have potential impacts upon such species. Project-related impacts to species on the CESA’s rare, threatened, and endangered list would be considered significant and require mitigation. The CDFW can authorize take if an incidental take permit is issued by the Secretary of the Interior or Commerce in compliance with the ESA, or if the director of the CDFW issues a permit under Section 2081 in those cases where it is demonstrated that the impacts are minimized and fully mitigated.

3.5. CALIFORNIA FISH AND GAME CODE

The California Fish and Game Code defines take (Section 86) and prohibits taking of a species listed as threatened or endangered under the CESA (California Fish and Game Code Section 2080), or otherwise fully protected (California Fish and Game Code Sections §3511, §4700, §5050, and §5515). Section 2081(b) and (c) of the CESA allows the CDFW to issue an incidental take permit for a State listed threatened and endangered species if specific criteria outlined in Title 14 California Code of Regulations (CCR), Sections 783.4(a), (b) and California Fish and Game Code Section 2081(b) are met. The California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The CDFW protects plants designated as endangered or rare under Fish and Game Code Section 1900.

4. ENVIRONMENTAL SETTING

4.1. PHYSIOGRAPHIC, CLIMATE AND SURFACE WATER

The Analysis Area consists of rugged, eroding, rocky slopes composed of quartzites and schists that have been intruded by granitic rocks. In places there are andesite and dioritic dikes (Jennings et al. 1977). Climate within the Analysis Area is characterized by hot dry conditions in the summer months and dry mild winters. Average rainfall is 3.5 inches per year, occurring primarily during late winter (February and March) and the monsoon season (July to September). Average high temperature of the hottest (August) month is 105°F and average low temperature of the coldest month (December) is 66°F (Weather Underground 2021). No surface water features occur within the Analysis Area.

4.2. SOILS

Soils in the Analysis Area developed from weathered granitic rock and schistose rock substrates. The soils consist of extremely gravelly sands or gravelly loams with up to 90 percent coarse fragments. Soils within the Analysis Area are of two general types based on substrate and topographic position: residual soil material weathered in place on slopes and ridges; and deeper alluvial soils transported by water and gravity to toe slopes, washes, and outwash fans. Hill slopes in the Analysis Area are steep and almost entirely covered in large, weathered rock (BLM & P.M. De Dycker & Associates, Inc. 1994). The soils within the Analysis Area also contain large areas of disturbance from previous mining and reclamation activities.

4.3. VEGETATION

Vegetation in the Analysis Area is low desert scrub typical of the high temperature region of southeastern California. In general, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*) (**Appendix E Photo 12**). In addition, large portions of the Analysis Area consist of disturbed habitats dominated by non-native annual plants (**Appendix E Photo 11**). The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*) (**Appendix E Photo 18**). In summation, vegetation in the Analysis area is uniformly sparse and consists of very low density shrublands, upland trees and highly disturbed habitats (**Appendix E Photos 11, 12 and 18**).

Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7.

California Native Plant Society vegetation categories observed within the Analysis Area are described below:

Brassica (nigra) and other mustards semi-natural stands

Brassica (nigra) and other mustards semi-natural stands vegetation category occupies approximately 18 percent of the Analysis Area and 24 percent of the Project Area (**Figure 5**). This vegetation category corresponds with disturbed and barren areas. Although the named dominant species, black mustard (*Brassica nigra*), was not observed, Saharan mustard (*Brassica tournefortii*), a closely related non-native mustard was often present in both naturally disturbed areas including wash scour and human-disturbed areas such as roads, camp sites, and rock waste piles. This natural community is not classified as sensitive by the CDFW (2020).

Parkinsonia florida—Olneya tesota alliance

Parkinsonia florida—Olneya tesota alliance occupies approximately 2 percent of the Analysis Area and 2 percent of the Project Area (**Figure 5**). The vegetation category is primarily restricted to xeroriparian

areas including washes, drainages, and narrow canyons. Besides the named alliance's dominant plants, blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), other commonly occurring plants include sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo, and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the CDFW (2020).

Larrea tridentata — *Encelia farinosa* alliance

Larrea tridentata — *Encelia farinosa* alliance occupies approximately 79 percent of the Analysis Area and 74 percent of the Project Area and occurs in a variety of topographic settings (**Figure 5**). Besides the named alliance's dominant plants, creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*), other commonly occurring plants include ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobush (*Ambrosia dumosa*). This natural community is classified as sensitive by the CDFW (2020).

4.4. EXISTING CONDITIONS (OR LAND USE)

Off-road vehicle use, recreational vehicle camping, and other outdoor activities have added to the disturbances in the Analysis Area. Previous mining disturbance and underground mine features occur throughout the Analysis Area.

5. METHODS

In order to determine the potential to occur of special-status species two complementary methods were utilized: 1) Desktop screening and vegetation habitat mapping, and 2) Field survey.

5.1. DESKTOP SCREENING AND VEGETATION HABITAT MAPPING

5.1.1. Desktop Screening

A desktop screening analysis was completed to evaluate the potential for special-status species or their critical habitat to occur within the Analysis Area. For this assessment, special-status species are defined as:

- 1) Species and critical habitat designated by the U.S. Fish and Wildlife Service (USFWS) as Endangered, Threatened, Proposed for listing, or Candidate for listing under the Endangered Species Act (ESA), as identified by the Information, Planning and Consultation (IPaC) system (**Appendix B**).
- 2) Species protected under the Bald and Golden Eagle Protection Act (BGEPA) (**Appendix B**).
- 3) Species designated as sensitive per the El Centro Field Office BLM list of California sensitive species (**Appendix C**).
- 4) California Environmental Quality Act (CEQA) species including CDFW Species of Special Concern; Plants designated as special-status by the California Native Plant Society (CNPS); USFWS Birds of Conservation Concern; CDFW special-status invertebrates; and Species of bat listed as high and medium priority by the Western Bat Working Group (**Appendix D**).

Special-status species were identified for the Analysis Area using a series of online databases and review of previous permitting efforts in the Project Area (Bureau of Land Management 2011, 2018, BLM & P.M. De Dycker & Associates, Inc. 1994). The IPaC system was used to create a list of ESA species and critical habitat likely to occur in the vicinity of the Analysis Area (**Appendix B**). WestLand reviewed California-specific special-status species that are documented to occur in the vicinity of the Project Area from the CDFW and CNPS using the BIOS and Rarefind tools (**Appendix D**). The BLM El Centro Field Office sensitive species list was also included in this screening (**Appendix C**). Previous permitting efforts in the Project Area include the American Girl Final Environmental Impact Statement (EIS), and American Girl East Mine Asphalt Batch Plant Environmental Assessment (EA) (BLM 2011, Bureau of Land Management 2018, BLM & P.M. De Dycker & Associates, Inc. 1994, Tetra Tech 2011).

In order to accommodate both the BLM's BRTR and the California Environmental Protection Agency (CalEPA) BRA requirements, two discrete potential to occur methods were used. The first potential to occur method pertained to all ESA listed, BGEPA listed and BLM sensitive species. The second potential to occur method pertained to the CEQA species only. Under the first method (ESA listed, BGEPA listed and BLM sensitive species) potential of occurrence were defined as follows:

Present: The species has been observed to occur within the Analysis Area, the Analysis Area is within the known range and distribution of the species, and habitat characteristics required by the species are present.

Possible: There are no known records of the species within the Analysis Area, but the known, current distribution of the species includes the Analysis Area and the required habitat characteristics of the species appear to be present in the Analysis Area. Given the uncertainty associated with species identification and accuracy of the location of observations from eBird and other citizen science databases, observations associated with citizen science databases are evidence that a species is possible within the Analysis Area.

Unlikely: The known, current distribution of the species does not include the Analysis Area, but the distribution of the species is close enough such that the Analysis Area may be within the dispersal or foraging distance of the species, and they may show up as transients. The habitat characteristics required by the species may be present in the Analysis Area.

None: The Analysis Area is outside of the known distribution of the species or the habitat characteristics required by the species are not present.

Under the second method species evaluated for the CEQA process potential to occur was evaluated using the categories below.

No potential of occurrence: The Analysis Area is outside of the known distribution of the species or the habitat characteristics required by the species are not present.

Low potential of occurrence: The known, current distribution of the species does not include the Analysis Area, but the distribution of the species is close enough such that the Analysis Area may be within the dispersal or foraging distance of the species, and they may show up as transients. The habitat characteristics required by the species may be present in the Analysis Area.

Moderate potential of occurrence: There are no known records of the species within the Analysis Area, but the known, current distribution of the species includes the Analysis Area and the required habitat characteristics of the species appear to be present in the Analysis Area.

High potential of occurrence: The species has been observed to occur within the Analysis Area, the Analysis Area is within the known range and distribution of the species, and habitat characteristics required by the species are present.

5.1.2. Vegetation Habitat Mapping

Vegetation habitat mapping was conducted using the Supervised Classification tool in ArcGIS Pro 2.7 to provide site-specific vegetation mapping and to estimate the type and extent of vegetation habitat within the Analysis Area. Vegetation habitat mapping was then validated during the field survey and a total plant species list was created. Habitat mapping followed the recommended CNPS methods and nomenclature. In addition, mapping was used to identify California Sensitive Natural Communities (CDFW 2020).

Field surveys were conducted to provide an overview of the environmental conditions within the analysis Area. This overview consisted of: 1) Vegetation mapping validation; 2) Diurnal raptor surveys; 3) Habitat suitability assessments for Colorado desert fringe-toed lizard (*Uma notata*), western burrowing owl (*Athene cunicularia*), flat-tailed horned lizard (*Phrynos omamcalii*), and bat species; and 4) creation of a vertebrate wildlife and plant species list. In addition, previous Mojave Desert tortoise (*Gopherus agassizii*) surveys conducted within the Project Area were utilized to assess habitat suitability for this species (**Appendix A**). Survey methods applied by Stantec followed protocol *Preparing For Any Action That May Occur Within the Range Of The Mojave Tortoise* as developed by USFWS (2017) which consisted of 100 percent coverage of proposed drill areas. Based on conversations with the BLM and input from the USFWS, tortoise surveys conducted for SMP by Stantec biologists in January 2021 fulfill the survey obligations for this species (**Appendix A**).

Diurnal raptor surveys followed the USFWS recommended golden eagle nest survey protocol and included the selection of appropriate observation points (**Appendix E Photos 4, 5, 6 and 7**). This survey followed the recommendations outlined in the USFWS Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations dated February 2010 (Pagel, Whittington, and Allen 2010). These methods relied on well-placed observation posts and walking transects which provided unobstructed viewing of any potential nest locations. Each observation point or walking transect included a broad panorama of the surrounding habitat and was established in locations distant

enough from any potential nest sites to effectively observe the behavior of the adults (if present) without disturbing nesting behavior.

Habitat assessments for Colorado desert fringe-toed lizard, western burrowing owl, and flat-tailed horned lizard consisted of onsite evaluation of suitable habitat within the Analysis Area. These three species are listed as BLM sensitive species and CEQA species and have ranges which overlap the Analysis Area.

Bat species habitat was evaluated by revisiting high value underground mine roosting habitat within the Analysis Area identified by the BLM in previous survey efforts. Previous survey efforts detected 20 high value bat roosts in underground mines within the Analysis Area (**Figure 4**). WestLand conducted external habitat assessments of these mines to evaluate the habitat potential of each mine feature (**Appendix E Photos 15 and 16**). In addition, the Analysis Area was evaluated for bat roosting habitat including cliff, crevice, and vegetation roosts and foraging habitat.

6. RESULTS

6.1. PLANT SPECIES

A total of 41 plant species were identified during field surveys within the Analysis Area (**Table 1**). Three CNPS vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7 (**Figure 5**) (see discussion in Sec. 4.3). In general, plant cover in the Analysis Area is particularly sparse.

6.2. WILDLIFE SPECIES

During the field survey a total of 26 wildlife species were observed (**Table 2**). Five of these species were detected during the raptor surveys and two during evaluation of bat roosting habitat. These detections included two occupied prairie falcon (*Falco mexicanus*) eyries (nesting sites), a suspected red-tailed hawk (*Buteo jamaicensis*) nest, and an unoccupied stick nest (**Figure 3**). A single prairie falcon (*Falco mexicanus*) eyrie was located within the Project Area and the second within the Analysis Area (**Figure 3**). The suspected red-tailed hawk and unoccupied stick nest occurred outside of the Analysis Area but within the raptor survey area (**Figure 3**). Black-tailed gnatcatchers (*Poliottila melanura*) were observed in the Analysis Area.

Table 1. Plant species observed in the Analysis Area during the field survey. This list represents species observed during the field survey and does not represent a complete floristic survey.

Common Name	Scientific Name	Common Name	Scientific Name
PLANTS		PLANTS	
PERENNIALS		ironwood	<i>Olneya tesota</i>
burrobush	<i>Ambrosia dumosa</i>	beavertail pricklypear	<i>Opuntia basilaris</i>
burrobush	<i>Ambrosia salsola</i>	blue paloverde	<i>Parkinsonia florida</i>
western milkweed	<i>Asclepias albicans</i>	Schott's pygmycedar	<i>Peucephyllum schottii</i>
sweetbush	<i>Bebbia juncea</i>	velvet turtleback	<i>Psathyrotes ramosissima</i>
Paloverde	<i>Cercidium floridum</i>	desert globemallow	<i>Sphaeralcea ambigua</i>
pink fairyduster	<i>Cylindropuntia erophylla</i>	Mesquite	<i>Prosopis juliflora</i>
hairy prairie clover	<i>Dalea mollis</i>	Tamarisk*	<i>Tamarix pentandra</i>
narrowleaf silverbush	<i>Ditaxis lanceolata</i>	American threefold	<i>Trixis californica</i>
Inciensio	<i>Encelia farinose</i>	ANNUALS	
rough jointfir	<i>Ephedra aspera</i>	sixweeks threeawn	<i>Aristida adscensionis</i>
desert trumpet	<i>Eriogonum inflatum</i>	Asian mustard*	<i>Brassica tournefortii</i>
California fagonbush	<i>Fagonia laevis</i>	brittle spineflower	<i>Chorizanthe brevicornu</i>
California barrel cactus	<i>Ferocactus cylindraceus</i>	devil's spineflower	<i>Chorizanthe rigida</i>
ocotillo	<i>Fouquieria splendens</i>	pygmy poppy	<i>Eschscholzia minutiflora</i>
paleface	<i>Hibiscus denudatus</i>	Arizona lupine	<i>Lupinus arizonicus</i>
desert lavender	<i>Hyptis emoryi</i>	Mojave desertstar	<i>Monoptilon bellioides</i>
creosote	<i>Larrea tridentata</i>	desert palafox	<i>Palafoxia arida var. arida</i>
water jacket	<i>Lycium andersonii</i>	clefthead phacelia	<i>Phacelia crenulata</i>
Parry's false prairie-clover	<i>Marina parryi</i>	desert Indianwheat	<i>Plantago ovata</i>
desert wishbone-bush	<i>Mirabilis laevis</i>	yellowdome	<i>Trichoptilium incisum</i>
desert tobacco	<i>Nicotiana obtusifolia</i>	*non-native	

Table 2. Wildlife species observed in the Analysis Area. This list represents the species observed during the field survey and does not represent a complete list of wildlife occurring within the Analysis Area.

Common Name	Scientific Name	Common Name	Scientific Name
Black-throated sparrow	<i>Amphispiza bilineata</i>	canyon towhee	<i>Meloxone fusca</i>
verdin	<i>Auriparus flaviceps</i>	northern mockingbird	<i>Mimus polyglottos</i>
great horned owl	<i>Bubo virginianus</i>	Unknown Myotis	<i>Myotis spp.</i>
red-tailed hawk	<i>Buteo jamaicensis</i>	neotoma	<i>Neotoma spp.</i>
Costa's hummingbird	<i>Calypte costae</i>	ground squirrel	<i>Osteospermophilus spp.</i>
turkey vulture	<i>Cathartes aura</i>	Black-tailed gnatcatcher	<i>Polioptila melanura</i>
common raven	<i>Corvus corax</i>	rock wren	<i>Salpinctes obsoletus</i>
ladder-backed woodpecker	<i>Dryobates scalaris</i>	Say's phoebe	<i>Sayornis saya</i>
burro	<i>Equus asinus</i>	squirrel	<i>Scuridate spp.</i>
prairie falcon	<i>Falco mexicanus</i>	northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
house finch	<i>Haemorhous mexicanus</i>	cottontail	<i>Sylvilagus spp.</i>
loggerhead shrike	<i>Lanius ludovicianus</i>	side-blotched lizard	<i>Uta spp.</i>
California leaf-nosed bat	<i>Macrotus californicus</i>	fox	<i>Vulpes spp.</i>

During the field survey the Analysis Area was evaluated for habitat suitability for Colorado Desert Fringed-toed lizard, Western burrowing owl, and flat-tailed horned lizard (**Figure 6**). No habitat suitable for flat-tailed horned lizard was observed within the Analysis Area. Several small areas on the western and southern extremes of the Analysis Area include isolated sandy patches that may provide marginal habitat for Colorado Desert fringe-toed lizard (**Figure 6 and Appendix E Photos 13 and 14**). Areas of flat topography on the southern and western edges of the Analysis Area provide potentially suitable western burrowing owl habitat (**Figure 6 and Appendix E Photos 11 and 12**).

6.2.1. Bats

Bat surveys consisted of an external evaluation of all the high value bat roost locations provided by BLM. The BLM did not provide species specific use or roost types within these mine features. Bat surveys within these mines conducted for previous permitting efforts in the Project Area indicate that these mine features were occupied by a suite of species including California leaf-nosed bat (*Macrotus californicus*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*) and an unknown Myotis species, likely cave myotis (*Myotis velifer*) (BLM 2011, Bureau of Land Management 2018, BLM & P.M. De Dycker & Associates, Inc. 1994, Tetra Tech 2011). Our external evaluation of these 20 mines detected bat guano and urine staining visible from the mine opening without entry. Guano and staining associated with California leaf-nosed bat activity was observed at five of the mine features. Identified California leaf-nosed bat guano consisted of 1 to 2 centimeter black to yellow streaking on the sides and roof of the mine (Mixan, Diamond, and Gwinn 2016). Two mine features contained guano and urine staining consistent with California leaf-nosed bat and an unknown Myotis species. Guano associated with an unknown Myotis species was observed at a single mine feature (**Figure 4**). Myotis guano consisted of pellets 1 to 3 millimeters long (Adams 2003). Myotis guano was most often detected at the mine openings on the angle-iron bat compatible gates. Bat activity could not be ascertained from external evaluations alone in the remaining 12 mine features and bat activity is unknown (**Figure 4**).

6.3. SPECIES HISTORICAL OCCURRENCE WITHIN THE ANALYSIS AREA

Historical occurrence data indicate that six special-status species have been detected within or adjacent to the Analysis Area (**Figure 7**). Two of these species were observed during the field survey (California leaf-nosed bat and pink fairy duster [*Cylindropuntia erophylla*]) (**Tables 1 and 2**). Suitable habitat was detected for three species (Townsend's big-eared bat, pallid bat, and western mastiff bat [*Eumops perotis*]). The Mojave Desert tortoise has been documented within and adjacent to the Analysis Area (BLM 2011, 2018, BLM & P.M. De Dycker & Associates, Inc. 1994) (**Appendix A**). Stantec conducted Mohave Desert tortoise surveys in the Project Area from January 8 to 15, 2021. Within the Project Area a total of eight suitable tortoise burrows were detected (**Appendix A**). Of these eight burrows all but one was in good condition. Scat or recent tracks were observed at three of the detected tortoise burrows and a single scat was detected not associated with a burrow (**Figure 7**).

6.4. POTENTIAL FOR SPECIAL-STATUS SPECIES TO OCCUR

WestLand identified special-status species using the sources described above and evaluated the potential for these special-status species to occur in the Analysis Area. The results of the desktop screening, vegetation mapping, and field survey were utilized to assess each special-status species potential to occur (**Tables 3, 4, 5, and 6**). The following sections provide potential to occur for ESA listed species (**Section 6.5**); BGEPA listed species (**Section 6.6**); BLM sensitive species (**Section 6.7**); and CEQA species (**Section 6.8**).

6.5. ESA LISTED SPECIES

One ESA listed species, the threatened Mohave Desert tortoise, has a potential to occur of **Present** within the Analysis Area (**Table 3**). No designated or proposed critical habitat occurs within the Analysis Area (**Appendix B**).

6.6. BGEPA LISTED SPECIES

The bald eagle has a potential to occur of **None** and golden eagle (*Aquila chrysaetos*) has an **Unlikely** potential to occur as the habitat within the Analysis Area is unsuitable and the habitat within the 2-mile raptor survey buffer (**Figure 3**) was marginal.

6.7. BLM SENSITIVE SPECIES

The potential to occur for BLM Sensitive Species for the El Centro Field Office was evaluated through the desktop screening, field survey, and vegetation mapping. Species with a potential to occur of **None** are summarized in **Appendix F** and all others are in **Table 5**. This approach was utilized to reduce table volume. In total, the potential to occur was evaluated for 55 BLM sensitive species. Of those 55, 35 had a potential to occur of **None** (**Appendix F**). Of the remaining 20 species (**Table 5**); ten species had a potential to occur of **Unlikely**, five **Possible** and only five species had a potential to occur of **Present**. Four of the five species with a potential to occur of **Present** were bat species and the fifth was the Mojave Desert tortoise (**Table 5**).

6.8. SPECIES EVALUATED FOR THE CEQA PROCESS POTENTIAL

In total, the potential to occur within the Analysis Area was evaluated for 31 species for the CEQA process (**Table 6**). Of the 31 species evaluated nine had **No Potential of Occurrence**. Of the remaining 22 species, ten had a **Low Potential of Occurrence**, four had a **Moderate Potential of Occurrence** and eight had a **High Potential of Occurrence**. The species with a High Potential of Occurrence consisted of a single plant, two birds, four bats, and the Mojave Desert tortoise.

Table 3. ESA Listed Species

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Gopherus agassizii</i> Mojave Desert Tortoise	Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).	Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015). Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a).	Occurs in the Mojave Desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).	This species occurs through the Mojave Desert in Southeastern California (Boarman 2002)	Present. The Analysis Area is within the range and contains potentially appropriate habitat. Surveys were conducted for the desert tortoise for the Project Area by Stantec in 2020 and detected tortoise use (Appendix A).

Table 4. BGEPA Listed Species

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Aquila chrysaetos</i> Golden eagle	Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)	<p>Range-wide, breeds in a wide variety of open habitats, with nests typically on cliffs, and avoids heavily forested areas (Katzner et al. 2020). In Arizona, prefers pinyon-juniper woodlands and Sonoran desertscrub (Driscoll 2005). Constructs large nests on cliff ledges, rock outcrops, tall trees or, rarely, transmission towers (Driscoll 2005). Golden eagles are known to forage within 4.4 miles of the nest (Tesky 1994a), generally in open habitats where prey is available (Katzner et al. 2020). Primarily feeds on small mammals (greater than 80 percent of prey items) but also consumes birds, reptiles and fish (Katzner et al. 2020). In the western U.S. average territory size ranges from 22 to 55 square miles (AGFD 2002b). In California, typically occupy rolling foothills, mountain areas, sage-juniper flats and deserts (CDFW 1990).</p> <p>Elevation: In California, near sea level up to 11,500 ft (CDFW 1990).</p>	<p>This species is a short to medium-distance partial migrant with a Holarctic distribution (Katzner et al. 2020). In North America, primarily breeds in western portion of the continent from Alaska to central Mexico. Northern most populations are typically migratory. Year-round and non-breeding populations occur from central Saskatchewan to British Columbia, Canada and south throughout its range and sparsely in the eastern U.S. (Katzner et al. 2020).</p>	<p>Uncommon permanent resident and migrant throughout California, except center of Central Valley (CDFW 1990). Perhaps more common in northern and southern California (CDFW 1990).</p>	<p>Unlikely. The Analysis Area occurs within the know range of the species, however, no historical records for this species occur within the Analysis Area and the habitat within the Raptor survey area was searched and no evidence of Golden Eagle nesting was detected. No golden eagle nests are known to occur within 4.4 miles of the Analysis Area (Diamond 2016) and thus it is unlikely this species would utilize the Analysis Area as foraging habitat. No historical records of this species occur within or adjacent to the Analysis Area (Figure 7 and Appendix D).</p>

Species Name	Federal Status	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Haliaeetus leucocephalus</i> Bald Eagle	Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)	<p>Breeding is concentrated in coastal areas, along rivers, lakes or reservoirs. Typically breeds in forested areas with edge habitat within 1.3 miles of aquatic habitats suitable for foraging. Prefers areas of shallow water and shorelines for fishing and hunting wide variety of waterfowl, and small aquatic and terrestrial mammals. Fish are preferred prey, but carrion is used extensively whenever encountered. Nests away from human disturbance in large trees and rarely on cliff ledges or on the ground when trees are absent. Winters primarily in coastal areas or along major river systems with adequate prey availability and large trees for perching (Buehler 2020). In California, more common at lower elevations (CDFW 1999).</p> <p>Elevation: In California, nesting most commonly found about 1,000 to 6,000 ft but can occur from near seal level to over 7,000 ft (Jurek 1988).</p>	<p>Migratory behavior varies among populations and age groups (Buehler 2020). Breeds south of the tundra throughout Canada and the U.S., excluding Hawaii. Additionally, small breeding populations occur in Baja California, Sonora and Chihuahua, Mexico (Buehler 2020). Winter range appears to be expanding as populations increase in size. Most populations are year-round residents with only the northern most populations in Alaska, U.S. and Canada withdrawing southward or to coastal areas (Fink 2018).</p>	<p>Permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties (CDFW 1999). Half of the wintering population is in the Klamath Basin (CDFW 1999). Not found in the high Sierra Nevada (CDFW 1999). Largest numbers found in Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, San Antonio Reservoir, and along the Colorado River (CDFW 1999). Local winter migrant at a few inland waters in southern California (CDFW 1999).</p>	<p>None. The Analysis Area occurs greater than the known foraging distance (1.3 miles from aquatic habitats) for this species. In addition, no suitable large nesting trees or cliffs occur within the Analysis Area. No historical records of this species occur within or adjacent to the Analysis Area (Figure 7 and Appendix D).</p>

Table 5. BLM El Centro Field Office Sensitive species

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
AMPHIBIANS				
<i>Scaphiopus couchii</i> Couch's spadefoot toad	Occurs in arid and semi-arid habitats of the southwest, along desert washes, desert riparian, palm oasis, desert succulent shrub, and desert scrub habitats (CDFW 2000). Can also be found in cultivated croplands. Requires friable soils for burrowing often beneath desert plants, logs, and other debris. Reproduces in temporary pools and potholes with water present for at least 10-12 days (CDFW 2000). Elevation: In California, from 690 to 1,120 ft (CDFW 2000).	Found in southeastern California along the Arizona border in Imperial, Riverside, and San Bernadino counties (CDFW 2000).	Southeastern California along the Arizona border (CDFW 2000).	Unlikely. The Analysis is within the known range of the species. However, there are no occurrence records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2021).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
BIRDS				
<p><i>Athene cunicularia hypugaea</i></p> <p>Western burrowing owl</p>	<p>This species inhabits flat or gently-sloping treeless and sparsely vegetated areas in deserts and grasslands (Poulin et al. 2011). In California, open, dry grassland and desert habitats, and in grass, forb and open shrub states of pinyon-juniper and ponderosa pine habitats. Areas with burrows and unobstructed perches are favored (Martin 2005). Largely reliant on burrows dug by mammals but, on rare occasion, will dig their own holes (Klute et al. 2003, Poulin et al. 2011). Northern populations are migratory, and habitat used migratory and winter period is similar to that used for breeding but with some evidence of increased reliance on agricultural areas (Klute et al. 2003, Poulin et al. 2011).</p> <p>Elevation: In California, up to 5,300 ft (CDFW 1999).</p>	<p>This species is a partial migrant, with northern populations being primarily migratory (Poulin et al. 2011). In southwestern states, individuals appear to make yearly decisions to remain on their breeding grounds or migrate, likely based on environmental conditions (Ogonowski and Conway 2009, Poulin et al. 2011). The hypugaea subspecies breeds in Alberta, British Columbia, Manitoba and Saskatchewan, Canada and 19 U.S. states including Arizona, California, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming (Klute et al. 2003). The breeding range extends southward into the Mexican states of Aguascalientes, Baja California, Baja California Sur, Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosí, Sinaloa, Sonora, Tamaulipas and Zacatecas (Poulin et al. 2011). Winters primarily in Arizona, California, Louisiana, New Mexico and Texas U.S., and southward through Mexico, excluding the Yucatan Peninsula, to Guatemala and Honduras, with rare reports as far south as Panama (Klute et al. 2003, Poulin et al. 2011).</p>	<p>In California, year-round resident throughout much of the state and on larger offshore islands (CDFW 1999).</p>	<p>Unlikely. The Analysis Area is within the known range of this species and potentially suitable habitat is present. No historical occurrence records are known from the Analysis Area (Appendix D). In addition, no Ebird observations have been made for this species within or adjacent to the Analysis Area (eBird 2021). No observation of this species or potential burrows were recorded during the field survey. However, potentially suitable habitat occurs on the western and southern ends of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 11 and 12).</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Melanerpes uropygialis</i></p> <p>Gila woodpecker</p>	<p>This species utilizes desert riparian and desert wash habitats, and orchard-vineyard and urban areas particularly in shade trees and date palm groves County (CDFW 1990). Utilizes areas with cottonwood and other desert riparian trees, shade trees, and date palms in California County (CDFW 1990). Also uses saguaros where available (CDFW 1990).</p>	<p>Found in southeast California, southwest Nevada, southern Arizona, southwest New Mexico and south into Mexico (Corman 2005a).</p>	<p>Resident in southern California along the Colorado River, and locally near Brawley, Imperial County (CDFW 1990).</p>	<p>Unlikely. Low potential of occurrence. because the majority of the Analysis Area does not contain appropriate habitat. We assessed all washes within the Analysis Area for woodpecker suitability and all washes were characterized by sparse ironwood, ocotillo, and low density of blue palo verde. There is one occurrence record for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020) in an unnamed wash south of Indian Wash about 2.25 miles West of the Cargo Mountains from March 2002. We inspected this wash (Appendix E Photo 17) and the washes within the Analysis Area varied widely from the occurrence site. The washes in the Analysis Area are dissimilar to the occurrence site as represented in Appendix E Photo 18.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Oreothlypis luciae</i> Lucy's warbler	Frequents open to dense thickets of mesquite and other trees and shrubs in desert wash and desert riparian habitat (Corman 2005b). Cover includes mesquite, salt cedar, palo verde, ironwood, and other riparian trees and shrubs (CDFW 1990). Nest in hidden areas including natural cavity, woodpecker holes, and behind loose bark, in old verdin nest or in a bank (CDFW 1990c).	Mainly breeds in the southwest U.S. and migrates to the Pacific slope of Mexico for the winter (Corman 2005b). Recently arrived in New Mexico. Winters almost exclusively in Mexico (Shuford and Gardali 2008a).	Currently numerous locally along the Lower Colorado River and small populations west to the Borrego Valley in San Diego County and north through the Mojave Desert to Furnace Creek Ranch in Death Valley National Park in Inyo County (Shuford and Gardali 2008a). Rare fall (August-February) migrant and winter visitor in California away from breeding habitats (Shuford and Gardali 2008a). In Lower Colorado River valley, occur in mesquite and other woodland in washes including Milpitas Wash in Imperial County, McCoy and Big washes in Riverside County, and Vidal and Chemehuevi washes in San Bernardino County (Shuford and Gardali 2008a).	Unlikely. While the Analysis Area occurs within the known range of this species the low density xeroriparian washes within the analysis area provide marginal habitat.
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat	Inhabits a wide variety of habitats including grasslands, shrublands, woodlands, and forest from sea level to mixed conifer forests (CDFW 1990c). Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, mines, and occasionally in hollow trees and buildings (CDFW 1990c). Night roosts may be in more open sites including porches and buildings (CDFW 1990c). Elevation: 1,900 to 6,560 ft (NatureServe 2021a).	Ranges throughout western North America, from British Columbia's southern interior, south to Queretaro and Jalisco, and east to Texas. Isolated population in Cuba (WBWG 2018). Most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts (WBWG 2018).	Locally common at low elevations in California. Occurs throughout California except for the high Sierra Nevada to Kern County and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County (CDFW 1990c).	Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Corynorhinus townsendii</i></p> <p>Townsend's big-eared bat</p>	<p>Forages in edge habitats along streams and adjacent to or within a variety of wooded habitats. Roosts in cliffs, caves, mines, tunnels, and buildings. Has a large home range and foraging distances (up to 93 miles) (Sherwin and Piaggio 2005).</p> <p>Elevation: Below 10,830 ft (Hammerson 2014).</p>	<p>Occurs from southern British Columbia, Canada and south through all western U.S. states eastward to the Black Hills of South Dakota and the Edwards Plateau in Texas. Isolated populations also exist in Oklahoma, Kansas, Arkansas, Missouri, Illinois, Indiana, Ohio, Kentucky, Virginia, and West Virginia. Range extends to the Isthmus of Tehuantepec, Mexico (Hammerson 2014).</p>	<p>Found throughout California but details of its distribution are not well known (CDFW 2000b).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.</p>
<p><i>Eumops perotis californicus</i></p> <p>Greater western mastiff bat</p>	<p>This species is found in areas with cliffs, which are used for roosting, in desert scrub, chaparral, oak woodland, ponderosa pine belt, mixed conifer forests and high elevation meadows (Siders and Pierson 2005). Maternity roosts occur in exfoliating rock slabs, crevices in boulders and buildings (Siders and Pierson 2005). The morphology of this species prevents it from drinking from water sources less than 98 ft in length and the availability of water limits its distribution across the landscape (AGFD 2014b). In Arizona, this species is a year-round resident that occurs in rocky canyons with abundant roosting crevices. Forages widely from roost sites in lower and upper Sonoran desertscrub near cliffs (AGFD 2014b) and has been captured more than 18 miles from roost sites (Siders and Pierson 2005).</p> <p>Elevation: In Arizona, 240–8,475 ft (AGFD 2014b). Foraging up to 10,000 ft in California (WBWG 2018).</p>	<p>Occurs in Arizona, California, Nevada, New Mexico, Texas and Utah, U.S. and the Mexican states of Baja California, Chihuahua, Coahuila, Durango, Sinaloa, Sonora and Zacatecas (AGFD 2014b, Hammerson 1994, Siders and Pierson 2005).</p>	<p>Found in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert (CDFW 1990).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Macrotus californicus</i></p> <p>California leaf-nosed bat</p>	<p>Typically forages along washes within 6.2 miles of their roost sites (Brown 2005). Primarily consumes insects but also consumes fruits (AGFD 2014a, Brown 2005). In Arizona, this species is a year-round resident of Sonoran Desertscrub. Consumes primarily insects taken on the wing or gleaned from vegetation, but have also been reported to feed on fruits, including those of cacti. Roost sites have large areas of ceiling and flying space, and include abandoned underground mines, caves, and rock shelters (AGFD 2014a).</p> <p>Elevation: In Arizona, below 4,000 ft (AGFD 2014a). In California, records are below 2,000 ft (CDFW 1990a).</p>	<p>Occurs in Arizona, California, Nevada and Utah, U.S. and the Mexican states of Baja California, Baja California Sur, Chihuahua, Sinaloa, Sonora and Tamaulipas (AGFD 2014a, Hammerson 2015a). (CDFW 1990a).</p>	<p>Found from Riverside, Imperial, San Diego, and San Bernardino counties. Historically occurred from Los Angeles to Sand Diego. Fairly common in some areas along the Colorado River (CDFW 1990a).</p>	<p>Present. Historical records for this species occur within the analysis Area and suitable roosting and foraging habitat exists within the Analysis Area. In addition, sign associated with this species was detected within the Analysis Area.</p>
<p><i>Myotis ciliolabrum</i></p> <p>Small-footed myotis</p>	<p>Occur in a variety of habitat but primarily found in relatively arid wooded and brushy uplands near water (CDFW 1990d), chaparral, riparian zones, and western coniferous forests (WBWG 2018). Roost caves, buildings, mines, crevices, and occasionally under bridges or bark. Night roost in buildings and caves (CDFW 1990d).</p> <p>Elevation: In California, sea level to at least 8,900 ft (CDFW 1990d).</p>	<p>Found across the western half of North American from British Columbia, Alberta, and Saskatchewan in Canada, throughout most of the U.S. west of the 100th Meridian, and into central Mexico (WBWG 2018).</p>	<p>Common in arid uplands in California and occurs from Contra Costa County south to the Mexican border in the coastal region. Also found on the west and east sides of the Sierra Nevada, and in the Great Basin and desert habitats from Modoc to Kern and San Bernardino counties (CDFW 1990d).</p>	<p>Possible. The analysis Area occurs within the range of this species and suitable roosting and foraging habitat exists within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Myotis velifer</i> Cave myotis	Forages in desertscrub vegetation and is tolerant of high temperatures and low humidity. Roosts in caves, tunnels, abandoned underground mines, buildings and under bridges within a few miles of water. In Arizona, hibernation roosts are in wet mine tunnels above 6,000 ft (AGFD 2002a). In California, utilize desert scrub, desert succulent shrub, desert wash, and desert riparian.(CDFW 1990b). Elevation: 300–8,800 ft (AGFD 2002a).	Occurs in Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Texas and Utah, U.S. Range extends southward through Mexico to Honduras (AGFD 2002a, Hammerson 2015b).	Restricted in California to lowlands of the Colorado River and adjacent mountain ranges, in San Bernardino, Riverside and Imperial counties, although more common farther east (CFDW 1990b).	Possible. An observation record for this species occurs adjacent to the Analysis Area and the Analysis Area contains suitable mine roosting habitat.
<i>Myotis yumanensis</i> Yuma myotis	Inhabits riparian, scrublands, desert, forest near permanent sources of water including rivers, and streams but also uses tinajas (WBWG 2018). Optimal habitats in California in areas with open forest and woodland with sources of water (CDFW 1990e). Roosts in bridges, buildings, cliff crevices, caves, mines, and trees (WBWG 2018). Have been observed roosting in abandoned swallow nests (CDFW 1990e). Elevation: In California, seal level to 11,000 ft considered uncommon to rare above 8,000 ft (CDFW 1990e).	Found across the western third of North America from British Columbia, Canada, to Baja California and southern Mexico. In the U.S. it occurs in all the Pacific coastal states, as far east as western Montana to the north, and as far east as western Oklahoma south (WBWG 2018).	Common and widespread in California but uncommon in the Mojave and Colorado desert regions, except for the mountain ranges bordering the Colorado River Valley (CDFW 1990e).	Unlikely. No permanent water sources occur within or adjacent to the analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Ovis canadensis nelsoni</i></p> <p>Desert bighorn sheep (aka. Nelson bighorn sheep)</p>	<p>Inhabits alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian (CDFW 1990). Uses rocky, steep terrain for reproduction and escape, prefers open areas of low-growing vegetation for feeding and requires adequate sources of water (CDFW 1990).</p>	<p>Historical range extended from northeastern California, Oregon, northern Nevada, and southwestern Idaho southward through the deserts of the southwestern U.S. to southern Baja California, northwestern Sonora Mexico, southern Arizona, southern New Mexico, Chihuahua Mexico and western Texas (Hammerson 2011).</p>	<p>Uncommon in California. There are three subspecies: California bighorn sheep (<i>O. c. californiana</i>), peninsular bighorn sheep (<i>O. c. cremnobates</i>), and Nelson bighorn sheep aka. desert bighorn sheep (<i>O. c. nelsoni</i>) (CDFW 1990). The desert bighorn sheep occur in desert mountain ranges from White Mountains of Mono and Inyo counties south to the San Bernardino Mountains and southeastward to the Mexican border with an isolated population occurs in the San Gabriel Mountains (CDFW 1990).</p>	<p>Unlikely. No historical occurrence records exist within the Analysis Area and no evidence of this species was observed during the field survey.</p>
PLANTS				
<p><i>Croton wigginsii</i></p> <p>Wiggin's croton</p>	<p>Perennial shrub that blooms March through May. Inhabits desert dunes and Sonoran desert scrub in sandy areas (CNPS 2021g).</p> <p>Elevation: 165 to 330 ft (CNPS 2021g).</p>	<p>Occurs in California, Arizona, Baja California and Sonora Mexico (CNPS 2021g).</p>	<p>Found in Imperial County (CNPS 2021g).</p>	<p>Unlikely. While no records of this species occur within the Analysis Area a small area of suitable sandy habitat in Sonoran desert scrub vegetation occurs on the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>
<p><i>Cylindropuntia munzii</i></p> <p>Munz cholla</p>	<p>Perennial stem succulent that blooms in May. Occurs on sandy or gravelly soils in Sonoran desert scrub (CNPS 2021d).</p> <p>Elevation: 500 to 1,970 ft (CNPS 2021d).</p>	<p>Found in California and Baja California (CNPS 2021d).</p>	<p>Located in Imperial and Riverside counties (CNPS 2021d).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>
<p><i>Euphorbia platysperma</i></p> <p>Flat-seeded spurge</p>	<p>Annual herb that blooms February through September. Occurs in desert dunes and sandy areas in Sonoran desert scrub (CNPS 2021a).</p> <p>Elevation: 215 to 330 ft (CNPS 2021a).</p>	<p>Located in California, Arizona, Baja California and Sonora Mexico (CNPS 2021a).</p>	<p>Found in Imperial, Riverside, San Diego counties and possibly in San Bernardino County (CNPS 2021a).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Lupinus excubitus</i> <i>var. medius</i> Mountain Springs bush lupine	Perennial shrub that blooms March through May. Inhabits Pinyon and juniper woodland and Sonoran desert scrub (CNPS 2021c). Elevation: 1,395 to 4,495 ft (CNPS 2021c).	Occurs in California and Baja California (CNPS 2021c).	Found in Imperial and San Diego counties (CNPS 2021c).	Unlikely. While the Analysis Area includes Sonoran desert scrub habitats no historical records for this species exist within the analysis Area.
<i>Pholisma sonorae</i> Sand food	Perennial herb (parasitic) that blooms April through June (CNPS 2021f). Inhabits sandy soils, sand dunes and other sandy areas. It is a root parasite of desert shrubs (Arizona Rare Plant Committee 2001, CNPS 2021f). Known hosts include <i>Ambrosia dumosa</i> , <i>Eriogonum deserticola</i> , <i>Pluchea sericea</i> , <i>Tiquilia palmeri</i> and <i>T. plicata</i> (Yatskievych 1994). Elevation: In California, below 656 ft (CNPS 2021f). In Arizona, below 1,345 ft (AGFD 2004).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (AGFD 2004, CNPS 2021f).	Known only from Imperial County (CNPS 2021f).	Unlikely. Small pockets of suitable sandy soils occur in the western extent of the Analysis Area and the suitable host plant (<i>Ambrosia dumosa</i>) occurs within the Analysis Area (Appendix E Photos 13 and 14).
<i>Xylorhiza orcuttii</i> Orcutt's woody-aster	Perennial herb that blooms March through April. Inhabits Sonoran desert scrub (CNPS 2021e). Elevation: 0 to 2,000 ft (CNPS 2021e).	Occurs in California and Baja California (CNPS 2021e).	Found in Imperial and San Diego counties (CNPS 2021e).	Unlikely. No historical records exist for this species within the Analysis Area. However, suitable Sonoran desert scrub occurs within the analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
REPTILES				
<i>Gopherus agassizii</i> ¹ Mojave Desert Tortoise	Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015). In California, found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides (CHS 2021b) Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a). Possibly up to 7,200 ft (CDFW 2000)	Occurs in the Mojave desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).	Throughout the Mojave Desert and south along the Colorado River along the east side of the Salton Basin in the Sonoran Desert but absent from the Coachella Valley except from the Boyd Deep Canyon Research Center area (CHS 2021b). Introduced population in Anza-Borrego State Park in San Diego County (CHS 2021b).	Present. Active Tortoise burrows and scat have been detected within the Analysis Area. Records of this species occur within the Analysis Area (Appendix A).

¹ Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Uma notata</i></p> <p>Colorado Desert fringe-toed lizard</p>	<p>Occupies fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub in the Colorado and Sonoran desert (CDFW 2000). Utilize sparsely-vegetated arid areas and burrows as refugia (CHS 2021a).</p> <p>Elevation: sea level to 1,600 ft (CHS 2021a).</p>	<p>Occurs in California and Baja California (CHS 2021a).</p>	<p>Found in extreme southeast California in the Colorado Desert from the Salton Sea and Imperial sand hills east to the Colorado River, south to the Colorado River delta and on into northeastern Baja California, and east to Borrego Mountain (CHS 2021a).</p>	<p>Possible. A small area of potential suitable sandy substrate occurs at the western edge of the analysis Area outside of the Project Area (Appendix E Photos 13 and 14).</p>

Table 6. CEQA Special-Status Species

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
BIRDS				
<p><i>Melanerpes uropygialis</i></p> <p>Gila woodpecker</p>	<p>This species utilizes desert riparian and desert wash habitats, and orchard-vineyard and urban areas particularly in shade trees and date palm groves County (CDFW 1990). Utilizes areas with cottonwood and other desert riparian trees, shade trees, and date palms in California County (CDFW 1990). Also uses saguaros where available (CDFW 1990).</p> <p>Elevation: near sea level to 3,940 ft (NatureServe 2021e).</p>	<p>Found in southeast California, southwest Nevada, southern Arizona, southwest New Mexico and south into Mexico (Corman 2005a).</p>	<p>Resident in southern California along the Colorado River, and locally near Brawley, Imperial County (CDFW 1990).</p>	<p>Low potential of occurrence. because the majority of the Analysis Area does not contain appropriate habitat. We assessed all washes within the Analysis Area for woodpecker suitability and all washes were characterized by sparse ironwood, ocotillo, and low density of blue palo verde. There is one occurrence record for this species within the California Natural Diversity Database in these quadrangles (CDFW 2021) in an unnamed wash south of Indian Wash about 2.25 miles West of the Cargo Mountains from March 2002. We inspected this wash (Appendix E Photo 17) and the washes within the Analysis Area varied widely from the occurrence site. The washes in the Analysis Area are dissimilar to the occurrence site as represented in Appendix E Photo 18.</p>
<p><i>Taxostoma crissale</i></p> <p>Crissal thrasher</p>	<p>Inhabits dense sagebrush and other shrubs in desert washes and desert riparian areas with juniper and pinyon-juniper. Frequently found in habitats with mesquite, screwbean mesquite, ironwood, catclaw acacia, and arrowweed willow (CDFW 1990).</p> <p>Elevation: up to 5,900 ft (CDFW 1990).</p>	<p>Found throughout southwestern portions of the U.S. from southeastern California east through southern Nevada, southwestern Utah, norther Arizona, and southwestern New Mexico to western Texas and south to south-central Mexico and northeast Baja California (Shuford and Gardali 2008b).</p>	<p>Eastern Mojave Desert of Sand Bernardino and southeaster Inyo counties also resident in Imperial, Coachella, and Borrego valleys (CDFW 1990).</p>	<p>Moderate potential of occurrence due to range, appropriate habitat, but no occurrence record or observation during field investigation.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Taxostoma lecontei</i> Le Conte's thrasher	Utilize open desert wash, desert scrub, alkali desert scrub, desert succulent shrub habitats, and in Joshua tree habitat with scattered shrubs. Frequently use saltbush and cholla (CDFW 2005). Rarely occurs in habitats consisting entirely of creosotebush (NatureServe 2021f). Elevation: below sea level to 5,250 ft, mostly between 0 to 492 ft(NatureServe 2021f).	Occur throughout southwestern U.S. and northwestern Mexico (NatureServe 2021f, Sheppard 2019).	Found in southern California deserts from southern Mono County south to the Mexican border, and in western and southern San Joaquin Valley. Formerly found north to Fresno County and Kern County (CDFW 2005).	Low potential of occurrence. The low density cholla and creosotebush habitat dominance within the Analysis Area provides marginal habitat.
<i>Falco mexicanus</i> Prairie falcon	Breeds in open habitats, including shrub-step desert, grasslands with or without shrubs, and alpine tundra when cliffs or bluffs are present to provide nesting sites (Steenhof 2013). In Arizona, this species is found nesting in Sonoran desertscrub, in areas with mixed grassland and cold-temperate desertscrub, and pinyon pine-juniper or Madrean evergreen oak woodlands. Occasionally nest in areas of alpine grassland and mixed conifer forests. Open areas for foraging and the availability of nest sites are the primary determinants of the species distribution during the breeding season (Moors 2005). Nests primarily on cliff ledges but also use trees, buildings, electrical towers, and cliffs created by mines or quarries (Steenhof 2013). When food is plentiful, this raptor travels the least possible distance necessary to secure required food supplies but have been known to forage up to 15 miles from the nest (Tesky 1994b). During the fall and winter, increased numbers of individuals occur in open grasslands, creosote-bursage habitats, and agricultural areas (Moors 2005, Steenhof 2013). Elevation: Breeds 500–9,000 ft (Moors 2005). Elsewhere, up to 11,000 ft (Steenhof 2013).	Not considered a true migrant but undertakes seasonal movements in response to food availability and typically has widely separated nesting, post-nesting and wintering areas (Steenhof 2013). However, populations in California are resident. Breeds from south-central British Columbia and southern Alberta, through the western U.S., including western Texas, and into central Baja California, Chihuahua, Coahuila, central Durango, and San Luis Potosí. Winter range extends west to the Pacific Coast and eastward to Minnesota, northwest Iowa, east-central Missouri, central Oklahoma, and most of Texas. Mexican range expands slightly southward to include Baja California Sur, Zacatecas and possibly even to Oaxaca (Steenhof 2013).	Occurs throughout the state (Moors 2005).	High potential of occurrence. The Analysis Area occurs within suitable habitat in the range of this species and 2 occupied eyries were detected within the analysis Area (Appendix E Photos 8 and 9).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Athene cunicularia hypugaea</i></p> <p>Western burrowing owl</p>	<p>This species inhabits flat or gently-sloping treeless and sparsely vegetated areas in deserts and grasslands (Poulin et al. 2011). In Arizona, this species most commonly breeds in grazed grasslands and open disturbed areas such as the edges of agricultural fields, fallow fields, bladed areas, irrigation embankments, airports and golf courses. This species additionally breeds in sparsely vegetated Sonoran or cold-temperate desertscrub (Martin 2005). Areas with burrows and unobstructed perches are favored (Martin 2005). Largely reliant on burrows dug by mammals but, on rare occasion, will dig their own holes (Klute et al. 2003, Poulin et al. 2011). Northern populations are migratory, and habitat used migratory and winter period is similar to that used for breeding but with some evidence of increased reliance on agricultural areas (Klute et al. 2003, Poulin et al. 2011).</p> <p>Elevation: In Arizona, 650–6,140 ft (AGFD 2001).</p>	<p>This species is a partial migrant, with northern populations being primarily migratory (Poulin et al. 2011). In southwestern states, individuals appear to make yearly decisions to remain on their breeding grounds or migrate, likely based on environmental conditions (Ogonowski and Conway 2009, Poulin et al. 2011). The hypugaea subspecies breeds in Alberta, British Columbia, Manitoba and Saskatchewan, Canada and 19 U.S. states including Arizona, California, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming (Klute et al. 2003). The breeding range extends southward into the Mexican states of Aguascalientes, Baja California, Baja California Sur, Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosí, Sinaloa, Sonora, Tamaulipas and Zacatecas (Poulin et al. 2011). Winters primarily in Arizona, California, Louisiana, New Mexico and Texas U.S., and southward through Mexico, excluding the Yucatan Peninsula, to Guatemala and Honduras, with rare reports as far south as Panama (Klute et al. 2003, Poulin et al. 2011).</p>	<p>Found nesting throughout the state where favorable habitat is present. Southern populations are primarily resident whereas northern populations are migratory and are on their breeding grounds mid-March through as late as mid-October (Martin 2005).</p>	<p>Low potential of occurrence due to range, appropriate habitat, but no historical occurrence records (Appendix D). In addition, no Ebird observations have been made for this species within or adjacent to the Analysis Area (eBird 2021). No observation of this species or potential burrows were recorded during the field survey. However, potentially suitable habitat occurs on the western and southern ends of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 11 and 12).</p>
<p><i>Poliptila melanura</i></p> <p>Black-tailed gnatcatcher</p>	<p>This species is associated with Mojave and Sonoran desert scrub habitats. These habitats include mesquite, creosotebush, ocotillo and various cactus species (Tinant 2006).</p>	<p>Black-tailed gnatcatchers range from southern Nevada to northern Mexico and from southeastern California to southwestern New Mexico (Tinant 2006).</p>	<p>In California this species occurs only in southeastern California within suitable Mojavian and Sonoran desert scrub habitats (Tinant 2006).</p>	<p>High potential of occurrence. The analysis Area occurs within suitable habitat within the range of this species and individuals were detected during the field survey.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
INSECTS				
<i>Anomala hardyorum</i> Hardy's dune beetle	Member of the family Scarabaeidae. Most often found on north or east facing dune slip faces (UFWS 2006b).	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. No appropriate dune slip faces occur within the analysis Area.
<i>Apiocera warneri</i> Glamis sand fly	Member of the family Apioceridae. Flower-loving flies that are most common in dry, sandy habitats (Yeates and Irwin 1996).	Family is known in the deserts of North America, South America, and Australia (Yeates and Irwin 1996).	Known from southern California (NatureServe 2021b).	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.
<i>Cyclocephala wandae</i> Wandae dune beetle	Member of the family Scarabaeidae. Habitat information is lacking (UFWS 2006b).	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known only from collections in the Algodones Dunes in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable dune habitat.
<i>Effertia macroxipha</i> Glamis robberfly	In the genus <i>Effertia</i> . High diversity in arid or semi-arid ecosystems. Tend to perch close to the ground and often remain immobile.	Genus occur throughout the New World.	Known from southern California (Forbes 1988, NatureServe 2021c).	Moderate Potential of occurrence. The Analysis Area occurs within the known range.
<i>Euparagia unidentata</i> Algodones euparagia	In the family Vespidae. Inhabits desert regions (Bohart 1989). Limited habitat information available.	Endemic to Algodones Dunes in North America (Nature Serve 2021d, UFWS 2006b).	Endemic to Algodones Dunes in Imperial County (Nature Serve 2021d, UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Microbembex elegans</i> Algodones elegant sand wasp	In the family Sphecidae. Small sized. Inhabits active slip faces within sand dune systems often found at the base of shrubs where detritus collects (UFWS 2006b).	Species in genus <i>Microbembix</i> are found in North and South America. Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Perdita algodones</i> Algodones perdita	Dune habitats (UFWS 2006b) Limited habitat information available.	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known in the vicinity of Glamis, in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of the known range and suitable habitat.
<i>Perdita frontalis</i> Imperial perdita	All species in <i>Perdita</i> genus nest in sandy or partially sandy soil. Specialize on a variety plant families (Portman, Griswold, and Nell 2016).	Southwestern U.S. and Mexico (Portman, Griswold, and Nell 2016).	Southern California	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Perdita stephanomeriae</i> A miner bee	All species in Perdita genus nest in sandy or partially sandy soil. Specialize on a variety of plant families (Portman and Griswold 2017, Portman, Griswold, and Nell 2016).	Southwestern U.S. and Mexico (Portman, Griswold, and Nell 2016).	Southern California	Low potential of occurrence. A small area of sandy habitat occurs within the western edge of the Analysis Area outside of the Project Area.
<i>Pseudocotalpa andrewsi</i> Andrew's dune scab beetle	In the family Scarabaeidae. Shining leaf chafer that inhabits drifting sand between dunes (USFW 2006a)	Endemic to Algodones Dunes in North America (UFWS 2006b).	Known from two populations identified in Algodones Dune system in Imperial County (UFWS 2006b).	No potential of occurrence. The Analysis Area occurs outside of suitable dune habitat.
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat	Inhabits a wide variety of habitats including grasslands, shrublands, woodlands, and forest from sea level to mixed conifer forests (CDFW 1990c). Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, mines, and occasionally in hollow trees and buildings (CDFW 1990c). Night roots may be in more open sites including porches and buildings (CDFW 1990c). Elevation: 1,900 to 6,560 ft (NatureServe 2021a).	Ranges throughout western North America, from British Columbia's southern interior, south to Queretaro and Jalisco, and east to Texas. Isolated population in Cuba (WBWG 2018). Most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts (WBWG 2018).	Locally common at low elevations in California. Occurs throughout California except for the high Sierra Nevada to Kern Count and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County (CDFW 1990c).	High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable crevice and mine roosting habitat occurs within the Analysis Area (Appendix E Photos 15 and 16).
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	Forages in edge habitats along streams and adjacent to or within a variety of wooded habitats. Roosts in cliffs, caves, mines, tunnels, and buildings (Diamond and Diamond 2014). Has a large home range and foraging distances (up to 93 miles) (Sherwin and Piaggio 2005). Elevation: Below 10,830 ft (Hammerson 2014).	Occurs from southern British Columbia, Canada and south through all western U.S. states eastward to the Black Hills of South Dakota and the Edwards Plateau in Texas. Isolated populations also exist in Oklahoma, Kansas, Arkansas, Missouri, Illinois, Indiana, Ohio, Kentucky, Virginia, and West Virginia. Range extends to the Isthmus of Tehuantepec, Mexico (Hammerson 2014).	Found throughout California but details of its distribution are not well known (CDFW 2000b).	High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable mine roosting habitat occurs within the Analysis Area (Appendix E Photos 15 and 16).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Eumops perotis californicus</i></p> <p>Greater western mastiff bat</p>	<p>This species is found in areas with cliffs, which are used for roosting, in desert scrub, chaparral, oak woodland, ponderosa pine belt, mixed conifer forests and high elevation meadows (Siders and Pierson 2005). Maternity roosts occur in exfoliating rock slabs, crevices in boulders and buildings (Siders and Pierson 2005). The morphology of this species prevents it from drinking from water sources less than 98 ft in length and the availability of water limits its distribution across the landscape (AGFD 2014b). In Arizona, this species is a year-round resident that occurs in rocky canyons with abundant roosting crevices. Forages widely from roost sites in lower and upper Sonoran desertscrub near cliffs (AGFD 2014b) and has been captured more than 18 miles from roost sites (Siders and Pierson 2005).</p> <p>Elevation: In Arizona, 240–8,475 ft (AGFD 2014b). Foraging up to 10,000 ft in California (WBWG 2018).</p>	<p>Occurs in Arizona, California, Nevada, New Mexico, Texas and Utah, U.S. and the Mexican states of Baja California, Chihuahua, Coahuila, Durango, Sinaloa, Sonora and Zacatecas (AGFD 2014b, Hammerson 1994, Siders and Pierson 2005).</p>	<p>Found in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert (CDFW 1990).</p>	<p>High potential of occurrence. This species has been observed within the Analysis Area (Figure 7) and suitable rock slabs and crevice roosting habitat occurs within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<p><i>Macrotus californicus</i></p> <p>California leaf-nosed bat</p>	<p>Typically forages along washes within 6.2 miles of their roost sites (Brown 2005). Primarily consumes insects but also consumes fruits (AGFD 2014a, Brown 2005). In Arizona, this species is a year-round resident of Sonoran Desertscrub. Consumes primarily insects taken on the wing or gleaned from vegetation, but have also been reported to feed on fruits, including those of cacti. Roost sites have large areas of ceiling and flying space, and include abandoned underground mines, caves, and rock shelters (AGFD 2014a).</p> <p>Elevation: In Arizona, below 4,000 ft (AGFD 2014a). In California, records are below 2,000 ft (CDFW 1990a).</p>	<p>Occurs in Arizona, California, Nevada and Utah, U.S. and the Mexican states of Baja California, Baja California Sur, Chihuahua, Sinaloa, Sonora and Tamaulipas (AGFD 2014a, Hammerson 2015a). (CDFW 1990a).</p>	<p>Found from Riverside, Imperial, San Diego, and San Bernardino counties. Historically occurred from Los Angeles to San Diego. Fairly common in some areas along the Colorado River (CDFW 1990a).</p>	<p>High potential of occurrence. This species has been previously observed within the Analysis Area, and suitable mine roosting habitat occurs within the Analysis Area (Figure 7 and Appendix E Photos 15 and 16). In Addition, during the habitat assessment visit, stringy black guano and urine staining was detected on the sides of mines within the Analysis Area indicating that this species is present.</p>
<p><i>Myotis velifer</i></p> <p>Cave myotis</p>	<p>Forages in desertscrub vegetation and is tolerant of high temperatures and low humidity. Roosts in caves, tunnels, abandoned underground mines, buildings and under bridges within a few miles of water. In Arizona, hibernation roosts are in wet mine tunnels above 6,000 ft (AGFD 2002a). In California, utilize desert scrub, desert succulent shrub, desert wash, and desert riparian.(CDFW 1990b).</p> <p>Elevation: 300–8,800 ft (AGFD 2002a).</p>	<p>Occurs in Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Texas and Utah, U.S. Range extends southward through Mexico to Honduras (AGFD 2002a, Hammerson 2015b).</p>	<p>Restricted in California to lowlands of the Colorado River and adjacent mountain ranges, in San Bernardino, Riverside and Imperial counties, although more common farther east (CFDW 1990b).</p>	<p>Moderate potential of occurrence. An observation record for this species occurs adjacent to the Analysis Area and the Analysis Area contains suitable mine roosting habitat Figure 7 and Appendix E Photos 15 and 16).</p>
<p><i>Nyctinomops femorosaccus</i></p> <p>Pocketed free-tailed bat</p>	<p>Inhabits pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Roosts in rock crevices, caverns, or buildings. Drinks water from sources with open access and large surface areas (CDFW 2000a).</p> <p>Elevation: near sea level to about 7,300 ft (WBWG 2018).</p>	<p>Occurs in western North America from southern California, central Arizona, southern New Mexico, and western Texas, south into Mexico including Baja California (WBWG 2018).</p>	<p>Found in Riverside, San Diego, and Imperial counties. Rare in California (CDFW 2000a).</p>	<p>Moderate potential of occurrence. The Analysis Area occurs within the range of this species and suitable rock crevice roosting habitat occurs within the Analysis Area.</p>

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
PLANTS				
<i>Astragalus insularis</i> var. <i>harwoodii</i> Harwood's milk-vetch	Annual herb that blooms January through May. Inhabits sandy or gravely soils in desert dunes and Mohavean desert scrub (CNPS 2021i). Elevation: 0 to 2,330 ft (CNPS 2021i).	Occurs in Arizona, California, Baja California, Nevada, and Sonora Mexico (CNPS 2021i).	Found in Imperial, Riverside, San Bernardino, and San Diego counties (CNPS 2021i).	No potential of occurrence. No suitable dune habitat in Mohavean desert scrub occurs within the analysis Area and no records for this species occur within the Analysis Area.
<i>Calliandra erophylla</i> Pink fairy-duster	Perennial deciduous shrub that blooms January through March. Inhabits sandy or rocky soils in Sonoran desert scrub (CNPS 2021j). Elevations: 393 to 4,925 ft (CNPS 2021j).	Occurs in Arizona, California, Baja California, New Mexico, Texas, Utah, and Sonora Mexico (CNPS 2021j).	Found in Imperial, Riverside, and San Diego counties (CNPS 2021j).	High probability of occurrence. An occurrence record for this species exists within the Analysis Area and the species was observed in very low densities within the Analysis Area (Figure 7).
<i>Croton wigginsii</i> Wiggin's croton	Perennial shrub that blooms March through May. Inhabits desert dunes and Sonoran desert scrub in sandy areas (CNPS 2021g). Elevation: 165 to 330 ft (CNPS 2021g).	Occurs in California, Arizona, Baja California and Sonora Mexico (CNPS 2021g).	Found in Imperial County (CNPS 2021g).	Low probability of occurrence. While no records of this species occur within the Analysis Area a small area of suitable sandy habitat in Sonoran desert scrub vegetation occurs on the western edge of the analysis Area outside of the Project Area.
<i>Ditaxis claryana</i> Glandular ditaxis	Perennial herb that blooms October, December, January, February, and March. Inhabits sandy areas in Mojavean desert scrub and Sonoran desert scrub (CNPS 2021h). Elevation: 0 to 1,525 ft (CNPS 2021h).	Occurs in Arizona, California, and Sonora Mexico (CNPS 2021h).	Found in Imperial, Riverside, and San Bernardino counties (CNPS 2021h).	Low probability of occurrence. While no records of this species occur within the Analysis Area a small area of suitable sandy area in Sonoran desert scrub vegetation occurs on the western edge of the analysis Area outside of the Project Area.
<i>Palafoxia arida</i> var. <i>gigantea</i> Giant Spanish needle	Annual/perennial herb that blooms January through May. Inhabits desert dunes (CNPS 2021b). Elevation: 50 to 330 ft (CNPS 2021b).	Occurs in California and Sonora Mexico (CNPS 2021b).	Known only from Imperial County (CNPS 2021b).	No potential of occurrence. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Pholisma sonorae</i> Sand food	Perennial herb (parasitic) that blooms April through June (CNPS 2021f). Inhabits sandy soils, sand dunes and other sandy areas. It is a root parasite of desert shrubs (Arizona Rare Plant Committee 2001, CNPS 2021f). Known hosts include <i>Ambrosia dumosa</i> , <i>Eriogonum deserticola</i> , <i>Pluchea sericea</i> , <i>Tiquilia palmeri</i> and <i>T. plicata</i> (Yatskievych 1994). Elevation: In California, below 656 ft (CNPS 2021f). In Arizona, below 1,345 ft (AGFD 2004).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (AGFD 2004, CNPS 2021f).	Known only from Imperial County (CNPS 2021f).	Low potential of occurrence. Small pockets of suitable sandy soils occur in the western extent of the Analysis Area and the suitable host plant (<i>Ambrosia dumosa</i>) occurs within the Analysis Area.
REPTILES				
<i>Gopherus agassizii</i> ² Mojave Desert Tortoise	Inhabits valleys, bajadas and hills with sandy loam or rocky soils in Mojave desertscrub and Lower Colorado River Valley subdivision of the Sonoran Desert. To escape extreme temperatures, excavates burrows under vegetation or rocks. Will also use natural or manmade caves. Typically associated with areas of creosote bush, areas with other sclerophyll shrubs and with small cacti or areas with Joshua trees. Forages on grasses, forbs and succulents (AGFD 2010a). In the contact zone between the species (i.e., the Black Mountains), <i>G. morafkai</i> generally is found in foothills, hillside slopes and more mountainous terrain than <i>G. agassizii</i> that is typically found on alluvial fans and valley bottoms (Edwards et al. 2015). Elevation: Range-wide, from below sea level in Death Valley to 5,000 ft in elevation (AGFD 2010a).	Occurs in the Mojave desert of Arizona, California, Nevada and Utah (Edwards et al. 2015, Murphy et al. 2011).	More common in southern, central and the extreme northeast portion of state, but occurs throughout the state where suitable habitat exists (AGFD 2011).	High potential of occurrence. Active Tortoise burrows and scat have been detected within the Analysis Area. Records of this species occur within the Analysis Area (Appendices A and E Photo 19).

² Threatened, populations north and west of the Colorado River (USFWS 1980, USFWS 1990), critical habitat (USFWS 1980, USFWS 1994); Similarity of appearance (threatened) (USFWS 1990).

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur
<i>Phrynosoma mcallii</i> Flat-tailed horned lizard	Inhabits hard packed sandy flats and low dunes in Lower Colorado River desertscrub community, particularly in areas with creosote-white bursage vegetation (USFWS Brennan 2008, 2011). Elevation: Below 820 ft (AGFD 2010b).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (USFWS 2011).	Found in the extreme southwestern portion of the state in the Yuma Desert (AGFD 2010b, USFWS 2011).	No potential of occurrence. No suitable hard packed sandy flats or low dunes occur within the Analysis Area. No records for this species occur within the Analysis Area.
<i>Uma notata</i> Colorado desert fringe-toed lizard	Occupies fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub in the Colorado and Sonoran desert (CDFW 2000). Utilize sparsely-vegetated arid areas and burrows as refugia (CHS 2021a). Elevation: sea level to 1,600 ft (CHS 2021a).	Occurs in California and Baja California (CHS 2021a).	Found in extreme southeast California in the Colorado Desert from the Salton Sea and Imperial sand hills east to the Colorado River, south to the Colorado River delta and on into northeastern Baja California, and east to Borrego Mountain (CHS 2021a).	Low potential of occurrence. A small area of potential suitable sandy substrate occurs at the western edge of the Analysis Area outside of the Project Area (Figure 6 and Appendix E Photos 13 and 14).

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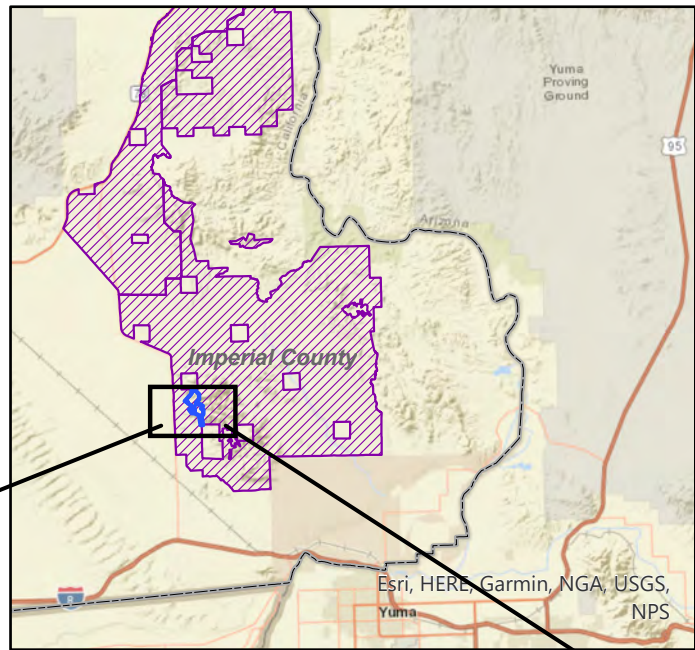
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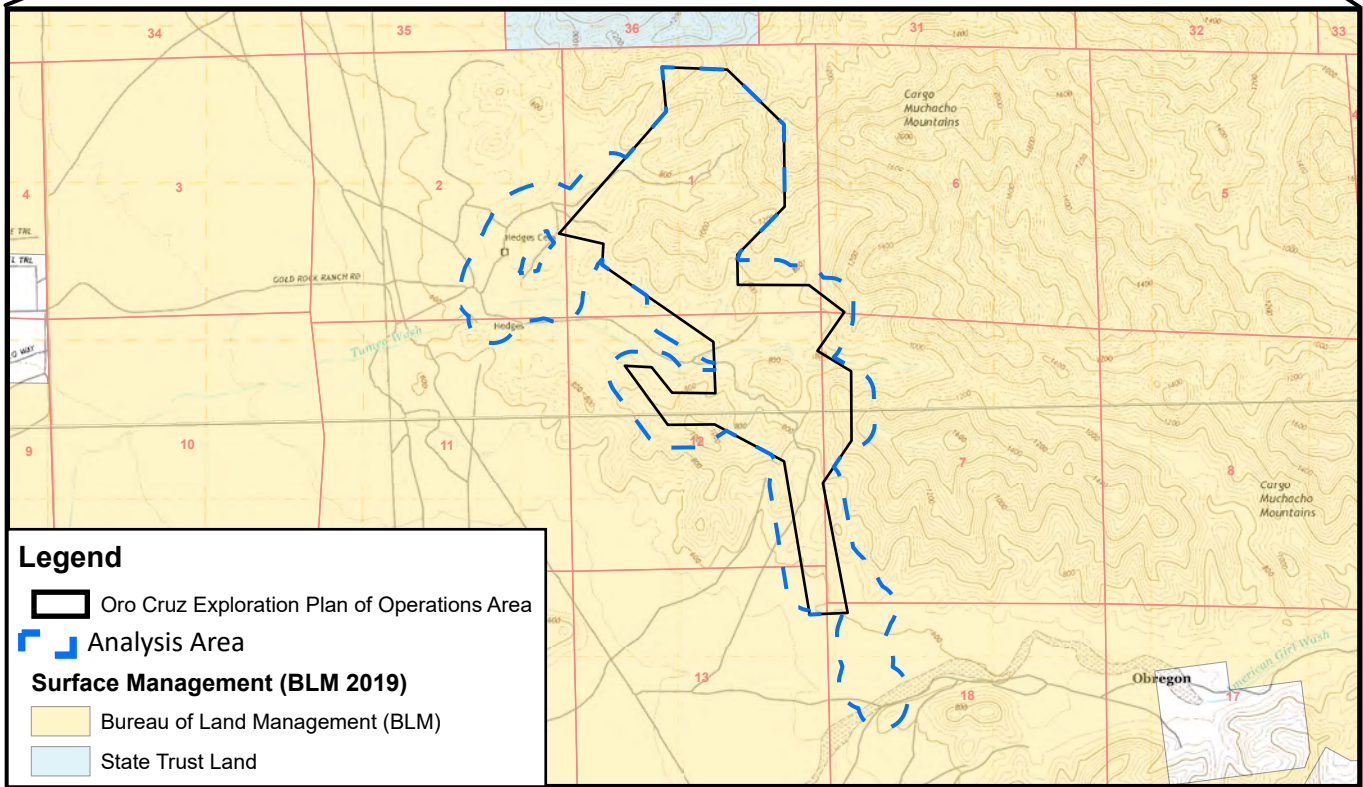
FIGURES

CALIFORNIA




PROJECT VICINITY



Approximate Scale 1 Inch = 12 Miles



Legend

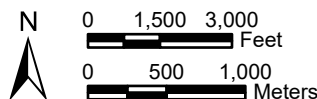
-  Oro Cruz Exploration Plan of Operations Area
-  Analysis Area
- Surface Management (BLM 2019)**
-  Bureau of Land Management (BLM)
-  State Trust Land

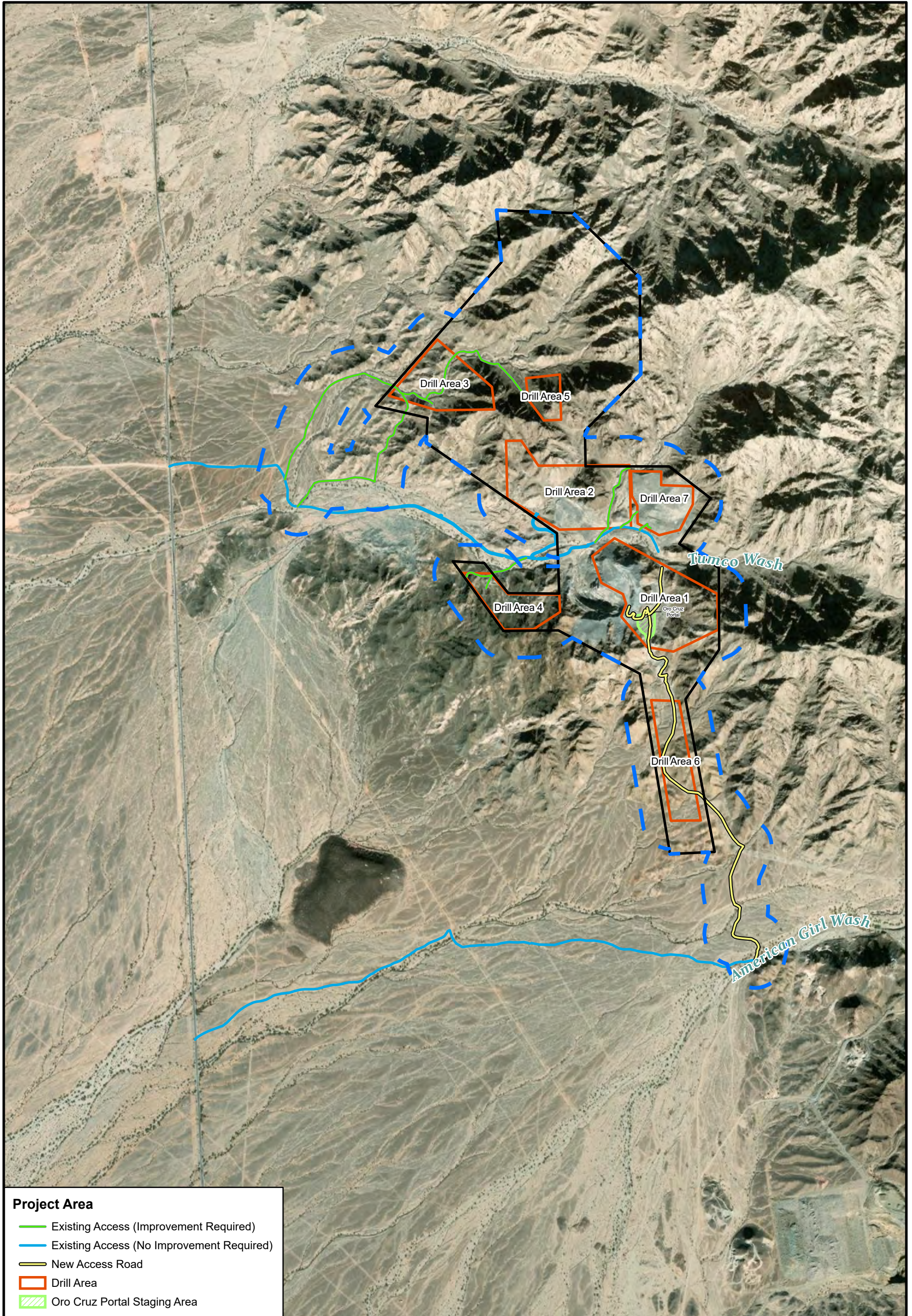
T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
 Data Source: SMP
 Image Source: ArcGIS Online, World Street Map

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
 and Assessment

VICINITY MAP

Figure 1





Project Area

- Existing Access (Improvement Required)
- Existing Access (No Improvement Required)
- New Access Road
- Drill Area
- Oro Cruz Portal Staging Area

T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018



Legend

- Oro Cruz Exploration Plan of Operations Area
- Analysis Area

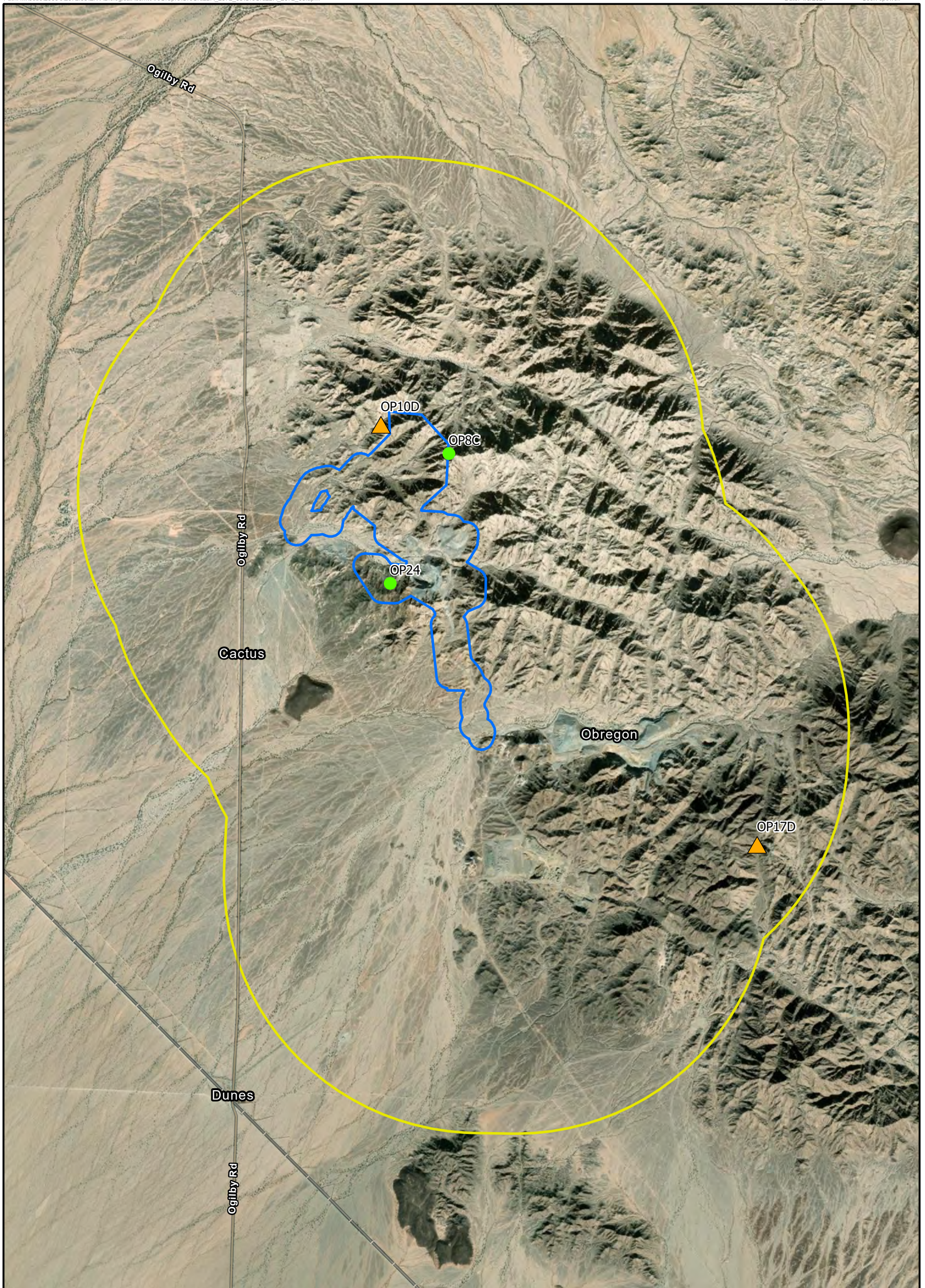
N

0 800 1,600 Feet

0 400 800 Meters

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
 and Assessment

ANALYSIS AREA
 Figure 2



T14S, R20E, Portions of Sections 24-27, and 34-36,
 T14S, R21E, Portions of Sections 19, and 29-32,
 T15S, R20E, Portions of Sections 1-3, 10-15, 23-26, 35, and 36,
 T15S, R21E, Portions of Sections 4-9, 16-21, and 28-32,
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

Legend

- Oro Cruz Raptor Survey Area
- Analysis Area

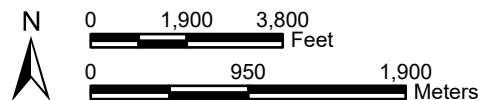
Sightings

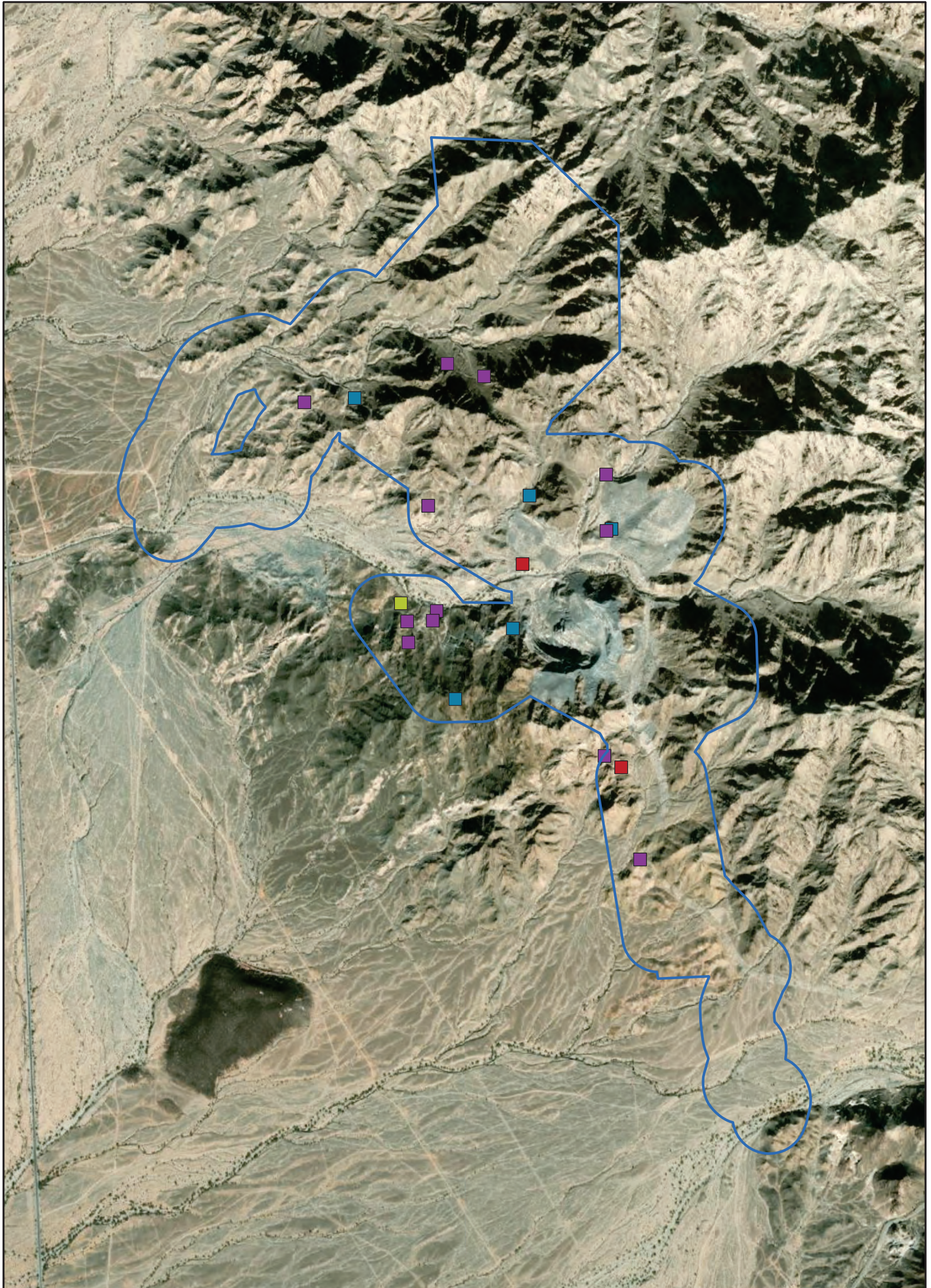
Type

- Eyrie
- ▲ Likely nest

**Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
 and Assessment**

RAPTOR SURVEY AREA
 Figure 3





T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

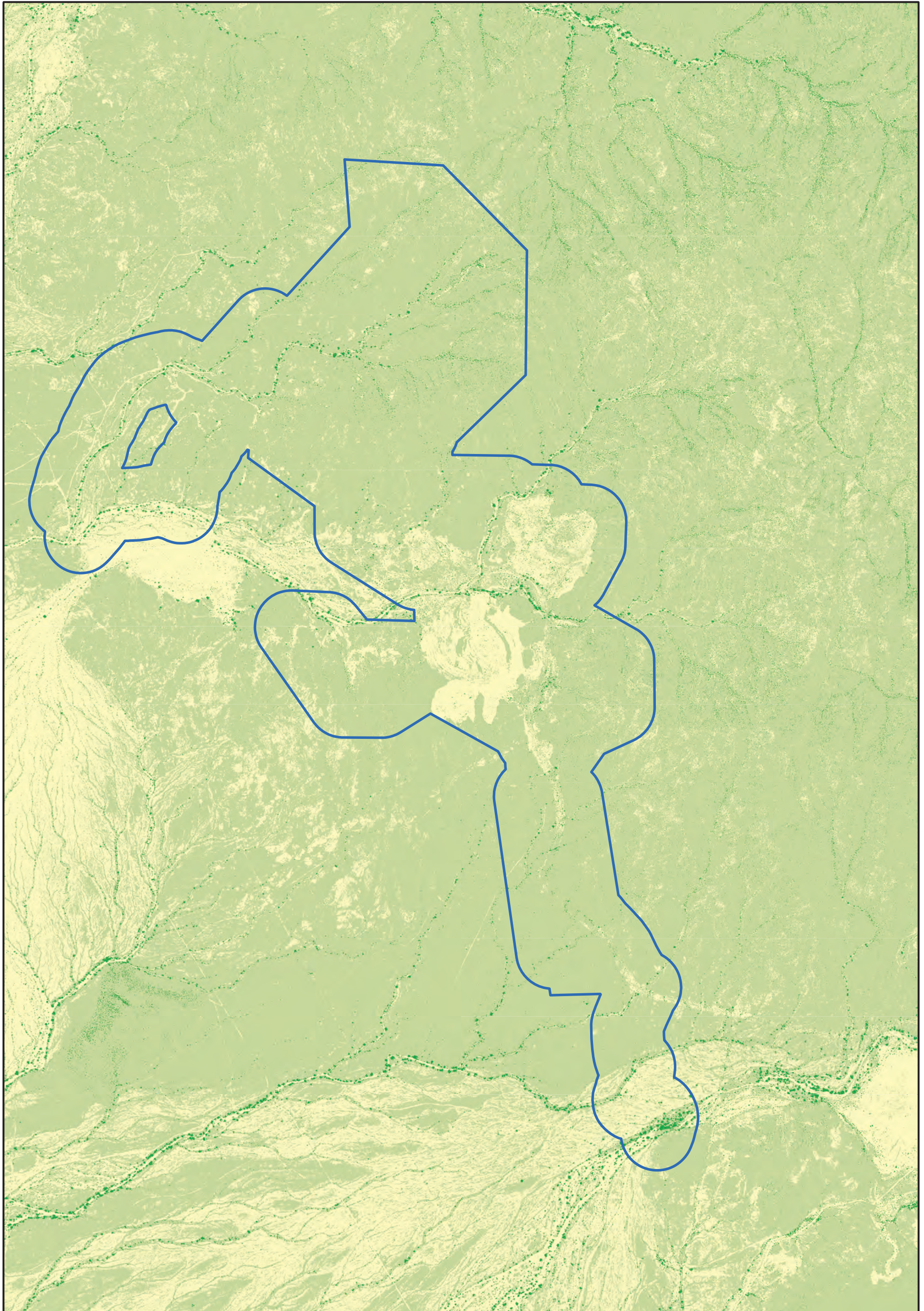
Legend

- Analysis Area
- Bat Species Observed**
- California leaf-nosed bat
- Myo. s species
- Myotis species/California leaf-nosed bat
- unknown

Oro Cruz Pit Area Exploration Project
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BAT HABITAT ASSESSMENT
 Figure 4





T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Imperial County, California,
 Data Source: SMP
 Image Source: Supervised Classification from NAIP 2020

Legend

- Analysis Area
- Brassica (nigra) and other mustards semi-natural stands
- Parkinsonia florida—Olneya tesota alliance
- Larrea tridentata — Encelia farinosa alliance

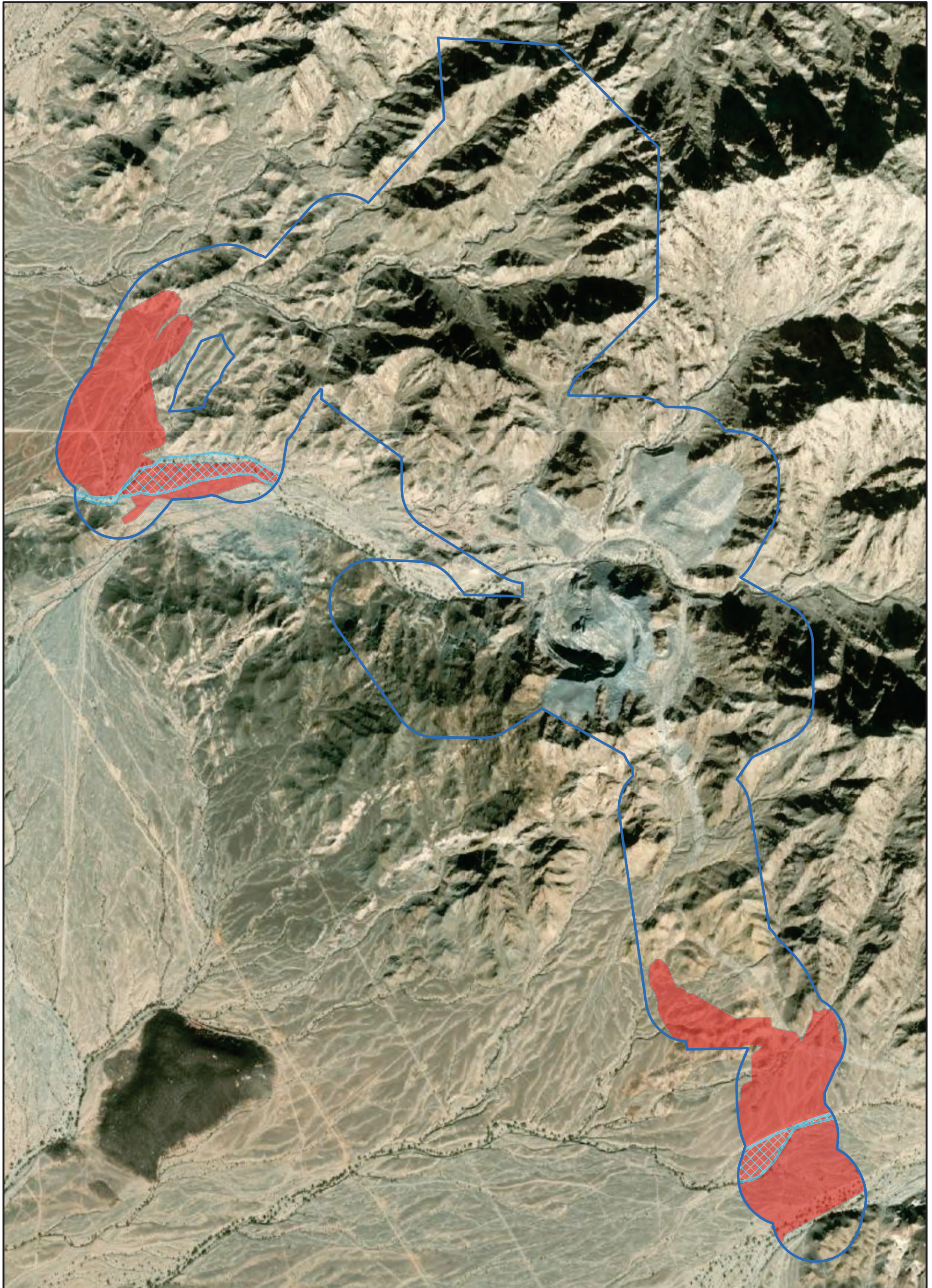
Oro Cruz Pit Area Exploration Project
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VEGETATION CLASSIFICATION
 Figure 5



0 750 1,500
 Feet

0 250 500
 Meters



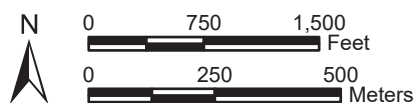
T14S, R20E, Portions of Sections 24-27, and 34-36,
 T14S, R21E, Portions of Sections 19, and 29-32,
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 T15S, R21E, Portions of Sections 4-9, 16-21, and 28-32,
 Imperial County, California,
 Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2019

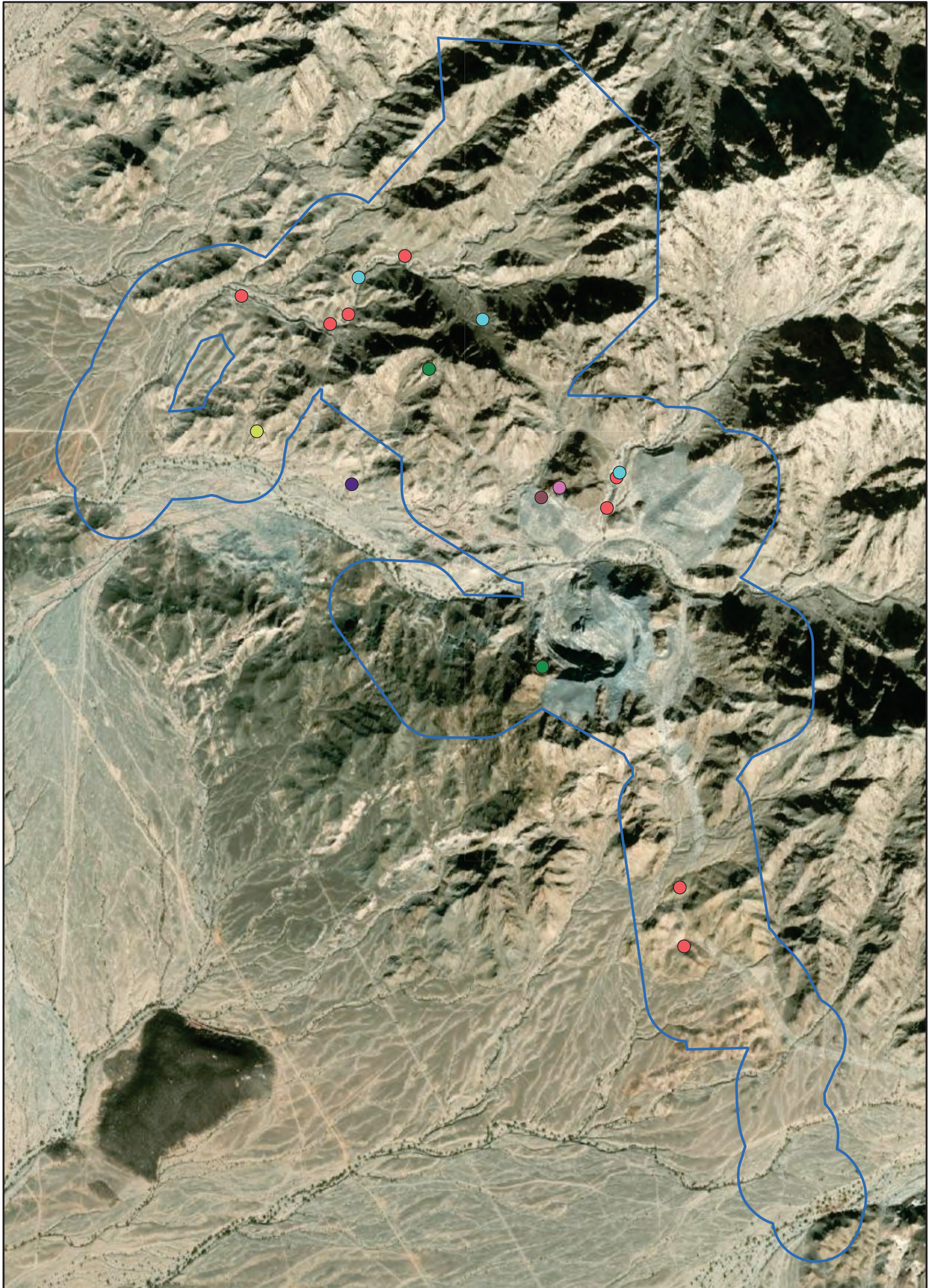
Legend

- Analysis Area
- Species**
- Fringe-toed lizard habitat
- Burrowing owl habitat

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
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WESTERN BURROWING OWL AND
 COLORADO DESERT FRINGE-TOED LIZARD
 HABITAT ASSESSMENT Figure 6





T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
 Data Source: SMP & Stantec
 CDFW (<https://apps.wildlife.ca.gov/>)
 CNPS (<https://apps.wildlife.ca.gov/>)
 Image Source: ArcGIS Online, World Imagery, 2019

Legend

Analysis Area

Occurrences

- California leaf-nosed bat
- Pallid bat

- Tortoise Burrow
- Tortoise Scat
- Townsend's big-eared bat
- pink fairy-duster
- western mastiff bat

Oro Cruz Pit Area Exploration Project
 Biological Resource Technical Report
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SPECIAL-STATUS SPECIES HISTORICAL
 OCCURRENCE WITHIN THE ANALYSIS AREA

Figure 7



APPENDIX A

Tortoise Survey

DESERT TORTOISE SURVEY REPORT ORO CRUZ PROJECT

Prepared for:

Southern Empire Resources Corp. / SMP Gold Corp.
789 West Pender Street, Suite 420
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Prepared by:



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321 North Mall Drive, Suite I-202
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Stantec Project Number 203722086

February 16, 2021

Sign-off Sheet and Signatures of Environmental Professionals

This document entitled Desert Tortoise Survey Report, Oro Cruz Project was prepared by Stantec Consulting Services Inc. (Stantec) for the account of Southern Empire Resources Corp/SMP Gold Corp. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

All information, conclusions, and recommendations provided by Stantec in this document regarding the Desert Tortoise Report have been prepared by and/or under the supervision of and reviewed by the professionals whose signatures appear below.

Prepared by: _____

Greg Sharp

Environmental Scientist



Approved by: _____

Benjamin H. Veach, P.E.

Principal

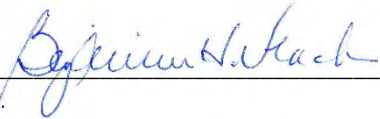


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ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Management
GIS	Geographic Information System
GPS	Global Positioning System
NEPA	National Environmental Policy Act
Project	Oro Cruz Drilling Plan Project
Stantec	Stantec Consulting Services Inc.
USFWS	United States Fish and Wildlife Service



1.0 SUMMARY

Stantec Consulting Services Inc. (Stantec) completed a desert tortoise survey of the Oro Cruz Drilling Plan Project (Project), located in Imperial County, California in the historic mining area of Tumco (**Figure 1**). The survey was conducted January 8 through 15, 2021.

The Project consists of seven planned drill exploration areas and associated access roads (Action Area, **Figure 2**). The total acres of surveys conducted in the drill exploration areas was 119.74 and the total miles of access road surveyed was 9.75. Areas of vertical, solid rock; highly-disturbed ground; or mine pits, within the drill areas, were considered unsuitable habitat for desert tortoise and not surveyed. Unsuitable habitat totaled 98.59 acres.

The following items of note were identified during this survey:

Drill Area 1 and associated access

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 2 and associated access

Two tortoise burrows were found, one with scat at the entrance, indicating this is likely an active borrow. Both burrows were in good condition.

Drill Area 3 and associated access

Four tortoise burrows and a piece of scat were found in the drill area. One burrow had tortoise tracks in the front of it and another had scat. All of the burrows are considered active or good condition.

Drill Area 4 and associated access

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 5 and associated access

One piece of tortoise scat was found in the drill area; however, no burrows were located.

Drill Area 6 and associated access

Two tortoise burrows were found in the drill area. One was in good condition; the other was deteriorated but had the correct shape.

Drill Area 7 and associated access

This drill area was highly disturbed and consisted of unsuitable habitat. Access roads were surveyed, and no tortoise or tortoise sign was found.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

2.1 ACTION AREA DESCRIPTION

Stantec Consulting Services Inc. (Stantec) completed a desert tortoise survey of the Oro Cruz Drilling Plan Project (Project), located in Imperial County, California in the historic mining area of Tumco (**Figure 1**). The survey was conducted January 8 through 15, 2021.

The Project consists of seven planned drill exploration areas (218.33 acres) and associated access roads (9.75 miles) (Action Area, **Figure 2**). The Action Area is located within the Cargo Muchacho Mountains which consists of very rugged, eroding, rocky slopes. Mining has occurred in this area since the early 1800s. The most recent mining activity was in the mid to late 1990s. As such, much of the area has been disturbed from mining activities. Off-road vehicle use, recreational vehicle camping, and other outdoor activities have added to the disturbances in the area. Vegetation in the Project is low desert scrub typical of the high temperature region of southeast California.

The Action Area is within Bureau of Land Management (BLM) classified Category 3 desert tortoise habitat, lower quality habitat, and on the edge of tortoise's general distribution in southern California (BLM, 1994). In these areas, the tortoises occur in relatively low numbers. The Action Area is approximately 6.8 miles from United States Fish and Wildlife Service (USFWS)-designated critical habitat and is 2,750 feet south of the designated Colorado Desert Recovery unit (**Figure 1**).

A total of 119.74 acres were surveyed in the seven drill areas and 9.75 miles of access roads were surveyed. There were 98.59 acres within the seven drill areas that were determined to be unsuitable habitat and were not surveyed. These areas consisted of steep vertical cliffs; highly disturbed ground; or mine pits.

2.2 PERSONNEL QUALIFICATIONS

Greg Sharp – B.S. Degree, Fisheries and Wildlife Biology

Mr. Sharp has utilized numerous survey techniques to assess the presence of Threatened, Endangered, Candidate, and Sensitive plant and animal species throughout the western states on private, BLM, and United States Forest Service lands. Mr. Sharp is a certified desert tortoise biologist and has been doing biological surveys in Utah, Nevada, and California for over 20 years. Mr. Sharp has completed tortoise surveys in conjunction with the National Environmental Policy Act (NEPA) process for many large projects in the southwest and in the greater southwestern Utah area.

Seth Topham – B.S. Degree, Natural Resources

Mr. Topham has more than 15 years of experience working as a natural resource biologist/certified desert tortoise biologist in many areas of the western United States. He also has more than 10 years of experience in providing Geographical Information System (GIS) support for various natural resource projects. Mr. Topham has utilized many survey techniques to assess the presence and/or monitor the status of plant and animal species, including many listed as Threatened, Endangered, Candidate, or otherwise considered Sensitive. Mr. Topham has completed numerous tortoise surveys in conjunction with the NEPA process for many large projects in the southwest and in the greater southwestern Utah area.



3.0 METHODS

3.1 TORTOISE SURVEYS

Stantec biologists conducted desert tortoise surveys in the Action Area following the USFWS protocol *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii)* (USFWS, 2019). As required by the protocol, biologists walked parallel transects spaced 10 meters apart to achieve 100 percent coverage of the areas surveyed. The Action Area transects were mapped in GIS and uploaded to Collector, a global positioning system (GPS) application for field data collection, prior to the survey. The Collector application was used to locate and follow the established transect lines in the field. During the survey, special attention was given to the identification of desert tortoise and desert tortoise sign (e.g., burrows, scat, carcasses, etc.). Vegetation and other wildlife species were also identified during the survey. Survey information was recorded on established data sheets.

4.0 RESULTS

4.1 HABITAT

The Action Area is located within the Cargo Muchacho Mountains which consists of very rugged, eroding, rocky slopes. The Action Area is located along the western side of the mountains at an elevation ranging from 500 to 800 feet. Mining has occurred in this area since the early 1800s. The most recent mining activity was in the mid to late 1990s. As such, much of the area has been disturbed from mining activities. Other significant human activity in the area consists of off-road vehicle driving, recreational vehicle camping, and other outdoor activities. Vegetation in the Action Area is typical low desert scrub found in southeast California. Habitat in the Action Area consists of four types: steep slopes, bajadas, desert pavement areas and washes.

Vegetation cover is low but varies from almost zero on the steep rocky slopes and desert pavement to fairly dense in some of the washes and bajadas. Vegetation on the slopes and uplands consists of scattered creosote bush (*Larrea tridentata*), ocotillo (*Fouquieria splendens*), Incienso (*Encelia farinose*) and scattered native grasses. Areas at the beginning of the bajadas and base of steep slopes offered foraging, shade and burrowing areas for desert tortoises. The deep cut washes concentrate rain fall and allow a greater variety of larger shrubs, trees, and ground cover. Dominant vegetation in these washes consisted of ironwood (*Olneya tesota*), mesquite (*Prosopis juliflora*), palo verde (*Cercidium floridum*), and tamarisk (*Tamarix pentandra*). The washes in the area would supply needed forage and shade for the desert tortoise. The wash banks supply areas for caliche caves and burrows. Dominant vegetation in these washes consisted of ironwood, creosote bush, mesquite, palo verde, and tamarisk. A complete list of plants found in the survey area is included in **Appendix A**.

Soils in the Action Area developed from weathered granitic rock and schistose rock substrates. The soils consist of gravelly sands with large amounts of cobble, rock, and boulders. Hill slopes in the Action Area are steep and almost entirely covered in large, weathered rock. Alluvial fans and washes in the area contained the deeper soils and would be considered suitable for tortoise burrowing.

4.1.1 Physical and Biological Features of Critical Desert Tortoise Habitat Described for the Action Area

Although the Action Area is within BLM category III habitat, the area is outside of USFWS designated Critical Habitat (**Figure 1**) but per protocol, the habitat is described below using the physical and biological features for Designated Desert Tortoise Critical Habitat (USFWS 2019).

1. The Action Area provides areas of sufficient space for movement and for tortoise to reside in the area. However, large sections of the Action Area are made up of steep rocky slopes, past mining disturbances and mining pits that would preclude the tortoise from using these areas.
2. The washes, bajadas, and upland areas do support native plant forage for the desert tortoise. Most of the forage species would be found in the washes or bajadas, were soils are better and water would promote plant growth.
3. Suitable burrowing, nesting, and overwintering substrate is restricted in the Action Area to the deep cut washes where soils are deeper and consist of a sandy gravel mixture. Caliche

caves and other shelter sites are also found in these washes. Other deep shelter sites can be found at the base of the rocky steep slopes.

4. Vegetation density is generally low in the Action Area. Shrubs grow large enough to provide shade and shelter but are sparse. The washes in the Action Area do supply a denser tree and shrub cover that provides shade and shelter.
5. The Action Area is being disturbed from an increase in human activities related to recreational use of the area. Also, past mining activities have disturbed much of the Action Area.

4.2 TORTOISE SURVEY

The Action Area is located within 2,750 feet of the Colorado Desert Recovery Unit for the desert tortoise (**Figure 1**). Stantec completed desert tortoise surveys following the USFWS protocol- *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii)* (USFWS 2019). The survey was conducted January 8 through 15, 2021. The survey methods for small projects and linear projects were followed as the Action Area size was less than 500 acres and had linear access routes. The primary purpose of these surveys was to provide information on whether desert tortoises are likely to be present. Small project and linear project surveys can be completed any time of year as they are used to determine if desert tortoises are present in the area based on sign rather than live animals.

As required by the protocol, biologists walked parallel transects spaced 10 meters apart to achieve 100 percent coverage of the area surveyed. Stantec used the datasheet included in the protocol to record all evidence that indicates desert tortoises may be present (e.g., scat, burrows, carcasses, courtship rings, drinking depressions, etc. in addition to live tortoises) (**Appendix B**). The Action Area transects were mapped in GIS and uploaded to the Collector application using a handheld GPS device. The application was used to locate and follow the established transect lines in the field. Temperatures ranged from the mid 40's in the mornings, with afternoon highs ranging in the 70's. Below are the survey findings in the Action Area:

Drill Area 1 and associated access

Drill Area 1 (**Figure 2**) was located almost entirely in the rocky steep slope habitat with approximately half of the area being an open pit (Photos 1-2, 27-28, **Appendix C**). The area was 57.74 acres with 18.28 acres being surveyed as tortoise habitat.

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 2 and associated access

Drill Area 2 (**Figure 2**) was located with approximately half of the area being tortoise habitat and the other half was steep and solid rock. (Photos 3-4, 23, 25, 29, **Appendix C**). The area was 54.84 acres with 34.03 acres being surveyed as tortoise habitat.

Two tortoise burrows were found, one had scat at the entrance (Photos 5, 24, **Appendix C**). All burrows were in good condition (Datasheets, **Appendix B**).

Drill Area 3 and associated access

Drill Area 3 (**Figure 2**) had a large wash that went down the middle of the area with the eastern portion of the area having steep and solid rock. (Photo 6, **Appendix C**). The area was 30.98 acres with 25.90 acres being surveyed as tortoise habitat.

Four tortoise burrows and a piece of scat were found in the drill area (Photos 7-10, **Appendix C**). One burrow had tortoise tracks in the front of it and another had scat. All are considered active or good condition (Datasheets, **Appendix B**).

Drill Area 4 and associated access

Drill Area 4 (**Figure 2**) was located almost entirely in the rocky steep slope habitat (Photos 11-12, 26, **Appendix C**). The area was 20.07 acres with 13.12 acres being surveyed as tortoise habitat.

No tortoise or tortoise sign was found in the drill area or associated accesses.

Drill Area 5 and associated access

Drill Area 5 (**Figure 2**) was located almost entirely in the rocky steep slope habitat (Photo 13, **Appendix C**). The area was 9.24 acres with 3.44 acres being surveyed as tortoise habitat.

One piece of tortoise scat was found in the drill area (Datasheets, **Appendix B**, Photo 14, **Appendix C**).

Drill Area 6 and associated access

Drill Area 6 (**Figure 2**) was located in an old, reclaimed haul route and included some rocky hills and bajada areas (Photo 15, **Appendix C**). The area was 24.98 acres with 100 percent being surveyed as tortoise habitat.

Two tortoise burrows were found in this drill area (Photo 16-17, **Appendix C**). One was in good condition the other was deteriorated but had the correct shape (datasheets, **Appendix B**).

Drill Area 7 and associated access

Drill Area 7 (**Figure 2**) was located entirely in a mine waste dump area and was not surveyed as tortoise habitat. Access roads were surveyed (Photos 30-31, **Appendix C**).

No tortoise or tortoise sign was found in the associated accesses.

4.3 GENERAL WILDLIFE OBSERVATIONS

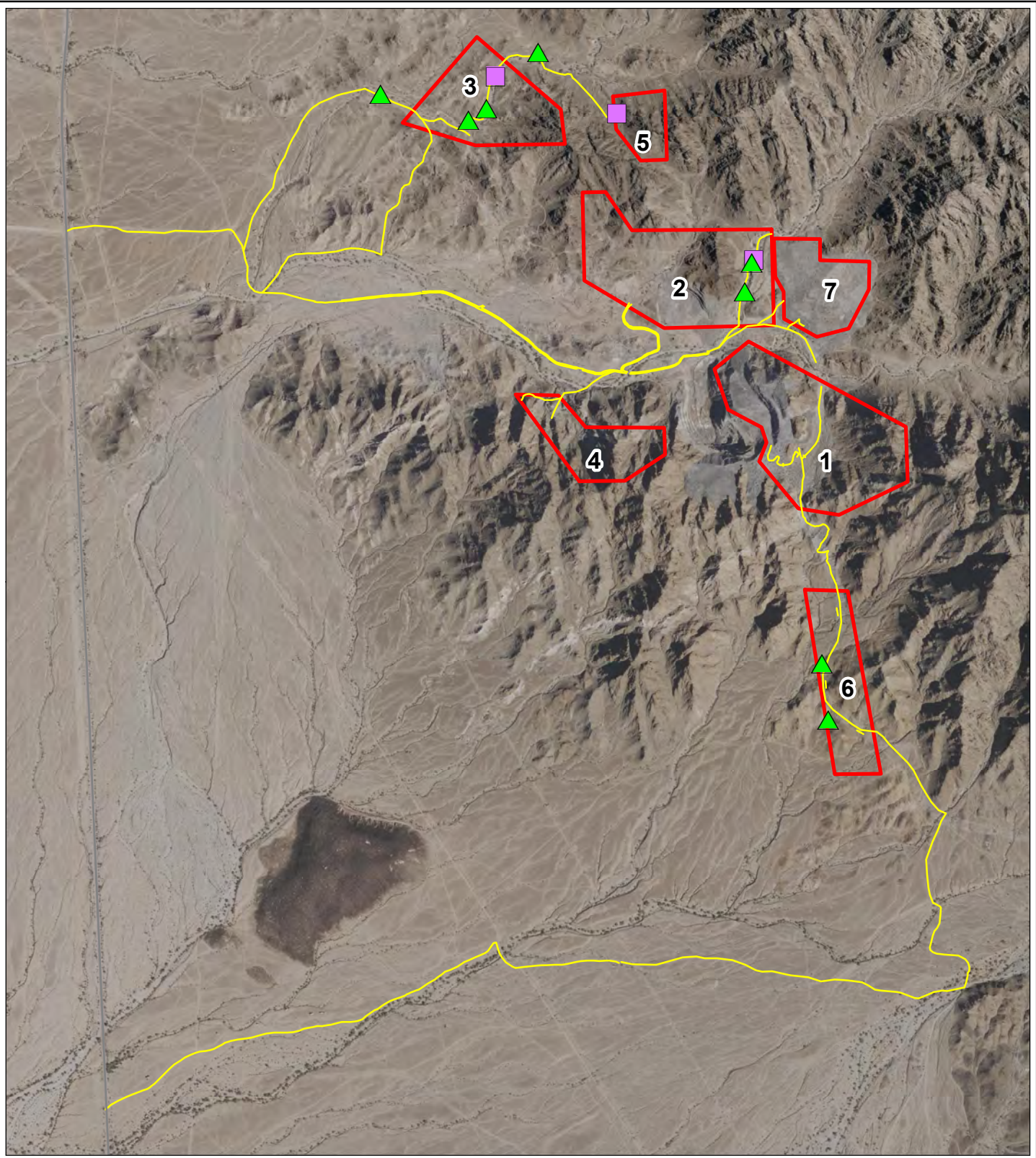
During the survey, observations were made of other wildlife species found or their sign (scat or tracks) and included many typical desert species of birds, reptiles, and mammals. A complete list is located in **Appendix A**

5.0 REFERENCES



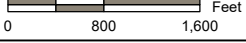
Bureau of Land Management (BLM). 1994. Oro Cruz Operation of the American Girl Mining Project: Environmental Impact Statement. El Centro Resource Area. El Centro, California.

United States Fish and Wildlife Service (USFWS). 2019. Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (*Gopherus agassizii*). Ventura Office. Ventura, California.

FIGURES



V:\2037\Active\203722086\03_data\gis_cad\fig\mxd\Figure_2_Survey_Results_Map_Bk11P.mxd Revised: 2021-02-01 By: chjohnson

<p>Legend</p> <ul style="list-style-type: none"> Drill Areas Access Roads ▲ Tortoise Burrow ■ Tortoise Scat 	   1 in = 1,600 feet	<p>Southern Empire Resources SMP Gold Corp. Oro Cruz Project Tortoise Survey</p>
Imperial County, CA NAD 1983 UTM Zone 11N		<p>Figure 2 Survey Results</p>
DRAWN BY: JT	1ST REVIEW: CJ	2ND REVIEW: BV
DATE: 2/1/2021		PROJECT NO: 203722086

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Service Layer Credits: Esri, USDA Farm Service Agency

APPENDIX A

Plants and Wildlife

Common Name	Genus	Species
Plants		
catclaw	<i>Acacia</i>	<i>greggii</i>
Burrow bush	<i>Ambrosia</i>	<i>dumosa</i>
devil's lettuce	<i>Amsinckia</i>	<i>tessellata</i>
palo verde	<i>Cercidium</i>	<i>floridum</i>
devil's spine flower	<i>Chorizanthe</i>	<i>rigida</i>
wingnut cryptantha	<i>Cryptantha</i>	<i>pterocarya</i>
inciensio	<i>Encelia</i>	<i>farinosa</i>
desert trumpet	<i>Eriogonum</i>	<i>Inflatum</i>
buckwheat	<i>Eriogonum</i>	<i>deflexum</i>
barrel cactus	<i>Ferocactus</i>	<i>acanthodes</i>
ocotillo	<i>Fouquieria</i>	<i>splendens</i>
hopsage	<i>Grayia</i>	<i>spinosa</i>
range ratany	<i>Krameria</i>	<i>grayi</i>
creosote	<i>Larrea</i>	<i>tridentata</i>
desert pepperweed	<i>Lepidium</i>	<i>fremontii</i>
beaver tail cactus	<i>Opuntia</i>	<i>basilaris</i>
golden cholla	<i>Opuntia</i>	<i>acanthocarpa</i>
desert plantain	<i>Plantago</i>	<i>insularis</i>
mesquite	<i>Prosopis</i>	<i>juliflora</i>
nipple cactus	<i>Mammillaria</i>	<i>acanthocarpa</i>
clump grass	<i>Shismus</i>	<i>arabicus</i>
globemallow	<i>Sphaeralcea</i>	<i>emoryi</i>
Birds		
black-tailed gnatcatcher	<i>Polioptila</i>	<i>melanura</i>
black-throated sparrow	<i>Amphispiza</i>	<i>billineata</i>
Costa's hummingbird	<i>Calypte</i>	<i>costae</i>
Gambel's quail	<i>Callipepla</i>	<i>gambelii</i>
ladder-backed woodpecker	<i>Picoides</i>	<i>scalaris</i>
loggerhead shrike	<i>Lanius</i>	<i>ludovicianus</i>
mourning dove	<i>Zenaida</i>	<i>macroura</i>
peregrine falcon	<i>Falco</i>	<i>peregrinus</i>
phainopepla	<i>Phainopepla</i>	<i>nitens</i>
red-tailed hawk	<i>Buteo</i>	<i>jamaicensis</i>
rock wren	<i>Salpinctes</i>	<i>obsoletus</i>
Say's phoebe	<i>Sayornis</i>	<i>saya</i>
turkey vulture	<i>Cathartes</i>	<i>aura</i>
Mammals		
antelope ground squirrel	<i>Ammospermophilus</i>	<i>leucurus</i>
mule deer	<i>Odocoileus</i>	<i>hemionus</i>
Reptiles		
desert tortoise	<i>Gopherus</i>	<i>agassizii</i>
Side-blotched lizard	<i>Uta</i>	<i>stansburiana</i>

APPENDIX B

Datasheets

Drill Area 2

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: OLIB/AEDES Location: 704285, 3604260 NAD83 ZU
(UTM coordinates, lat-long, and/or FRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 37Ac Transect #: MC-NS-114 Transect length: 114

GPS Start-point: 704546, 3640367 231m Start time: 9:12 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704510, 3640370 End time: 9:20 am/pm
(easting, northing, elevation in meters)

Start Temp: 65 °C End Temp: 65 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704557 3640260</u>	<u>SAT S3</u>	<u>2 pieces</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 2

Version: October 26, 2018

Date of survey: 14/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: 05181/AREAZES Location: 704225, 3607260 NAD83 ZN
(UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 54.84 Transect #: 02 Transect length: _____

GPS Start-point: 704615, 3640340 230m Start time: 10:06 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704393, 3639937, 215m End time: 10:33 am/pm
(easting, northing, elevation in meters)

Start Temp: 76 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow, all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704545 3640252</u>	<u>Burrow</u>	<u>SCAT (S2)</u>
2	<u>704522 3646147</u>	<u>Burrow</u>	<u>NO OTHER SIGN.</u>
3			
4			
5			
6			
7			
8			

DAZ - EAST - ACCESS - SWIM SIDE

PHOTOS SAY EAST Tr.

Drill Area 3

Version: October 26, 2018

Date of survey: 10/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: Hodges Location: 703328 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 2d width Transect #: 703328 Transect length: 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)

GPS Start-point: 702152 3640376 176m Start time: 0845 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704075 3640757 233m End time: 1000 am/pm
(easting, northing, elevation in meters)

Start Temp: 55 °C End Temp: 68 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

None

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>703647 3640908</u>	<u>scat</u>	<u>1 piece, S2 cond.</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 3

Version: October 26, 2018

Date of survey: 10/01/2021 Survey biologist(s): Seth.topham@stantec.com 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: HODGES Location: 702152, 3640376 NAD83 Z11
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 2000 w. DTH Transect #: TUNED N Transect length: _____

GPS Start-point: 704075, 3640752 233 m Start time: 8:53 am/pm
(easting, northing, elevation in meters)

GPS End-point: 702152, 3640376 176 m End time: 10:30 am/pm
(easting, northing, elevation in meters)

Start Temp: 55 °F End Temp: 60 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(In burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>703793 3640944</u>	<u>Burrow</u>	<u>TRACKS</u>
2	<u>703612 3640793</u>	<u>Burrow</u>	<u>SCAT</u>
3	<u>703548 3640754</u>	<u>Burrow</u>	<u>SCAT</u>
4	<u>703238 3640854</u>	<u>Burrow</u>	<u>GOOD CONDITION</u>
5			
6			
7			
8			

Drill Area 5

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)
 Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)
 County: Imperial County, CA Quad: Hodges Location: 703328 3640758
(UTM coordinates, lat-long, and/or TRS; map datum)
 Circle one: 100% coverage or Sampling Area size to be surveyed: 31 Transect #: 075-EW-17 Transect length:
 GPS Start-point: 704077 3640834 Start time: 1444 am/pm
(easting, northing, elevation in meters)
 GPS End-point: 704075 3640715 End time: 1700 am/pm
(easting, northing, elevation in meters)
 Start Temp: 55 °C End Temp: 75 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	704077 3640776	Scat	S2 end, 1 piece
2			
3			
4			
5			
6			
7			
8			

Drill Area 6

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: Gilby Location: 704864 3638784
(UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 25 Transect #: D146-N5-84 Transect length: 1658

GPS Start-point: 704817 3638601 Start time: 1355 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704817 3639092 End time: 1420 am/pm
(easting, northing, elevation in meters)

Start Temp: 70 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing	Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1					
2					
3					
4					
5					
6					
7					
8					

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing	Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	<u>704816 3638601</u>	<u>Burrow</u>	<u>NO OTHER SIGN</u>
2			
3			
4			
5			
6			
7			
8			

Drill Area 6

Version: October 26, 2018

Date of survey: 11/01/2021 Survey biologist(s): Seth.topham@stantec.com, 435-668-9723 - Greg.sharp2@stantec.com
(day, month, year) (name, email, and phone number)

Site description: Oro Cruz, 198 Acres, Southwest end of the Cargo Muchacho Mountains
(project name and size; general location)

County: Imperial County, CA Quad: 062323 Location: 704804, 3038754 NAD 83-21
(UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 25 Ac Transect #: 0586 Transect length: 384

GPS Start-point: 704797, 3039095 203 m Start time: 2:23 am/pm
(easting, northing, elevation in meters)

GPS End-point: 704795, 3038724 193 m End time: 2:53 am/pm
(easting, northing, elevation in meters)

Start Temp: 70 °C End Temp: 70 °C

Live Tortoises

Detection number	GPS location Easting Northing		Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL ≥180 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing		Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1	704793	3038839	Burrow	SCAT PRESENT
2				
3				
4				
5				
6				
7				
8				

APPENDIX C

Photographs



Photo 1: Drill Area 1, general view of suitable desert tortoise habitat surveyed.



Photo 2: Drill Area 1, general view of un-suitable desert tortoise habitat not surveyed.



Photo 3: Drill Area 2, general view of suitable desert tortoise habitat surveyed.



Photo 4: Drill Area 2, general view of un-suitable desert tortoise habitat not surveyed.



Photo 5: Drill Area 2, desert tortoise scat.



Photo 6: Drill Area 3, general view of suitable desert tortoise habitat surveyed.



Photo 7: Drill Area 3, desert tortoise burrow with old desert tortoise scat and old tracks.



Photo 8: Drill Area 3, desert tortoise burrow with desert tortoise scat.



Photo 9: Drill Area 3, desert tortoise burrow.



Photo 10: Drill Area 3, desert tortoise scat.



Photo 11: Drill Area 4, general view of suitable desert tortoise habitat surveyed.



Photo 12: Drill Area 4, general view of unsuitable desert tortoise habitat not surveyed.



Photo 13: Drill Area 5, general view of suitable desert tortoise habitat surveyed.



Photo 14: Drill Area 5, desert tortoise scat.



Photo 15: Drill Area 6, general view of suitable desert tortoise habitat surveyed.



Photo 16: Drill Area 6, desert tortoise burrow.



Photo 17: Drill Area 6, desert tortoise burrow (desert tortoise scat was present).



Photo 18: Portion of Access Tumco, general view of suitable desert tortoise habitat surveyed.



Photo 19: Access Road Tumco, desert tortoise burrow.



Photo 20: Portion of Access Tumco Gate Fork, general view of suitable desert tortoise habitat surveyed.



Photo 21: Portion of Access Tumco Main, general view of suitable desert tortoise habitat surveyed.



Photo 22: Portion of Access DH6 Main, general view of suitable desert tortoise habitat surveyed.



Photo 23: Portion of Access DH2, general view of suitable desert tortoise habitat surveyed.



Photo 24: Access DH2, desert tortoise burrow with desert tortoise scat.



Photo 25: Access DH2, desert tortoise burrow.



Photo 26: Portion of Access DH4, general view of suitable desert tortoise habitat surveyed.



Photo 27: Portion of Access DH1, general view of suitable desert tortoise habitat surveyed.



Photo 28: Portion of Access DH1 Access Spur, un-suitable desert tortoise habitat.



Photo 29: Portion of Access DH2 Alt Access, general view of suitable desert tortoise habitat surveyed.



Photo 30: Portion of Access DH7 Access East 1, general view.



Photo 31: Portion of Access DH7 East 2, general view of suitable desert tortoise habitat surveyed.

APPENDIX B

IPaC Screening



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
<http://www.fws.gov/carlsbad/>

In Reply Refer To:

March 05, 2021

Consultation Code: 08ECAR00-2021-SLI-0703

Event Code: 08ECAR00-2021-E-01567

Project Name: Oro Cruz

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

<http://>

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2021-SLI-0703

Event Code: 08ECAR00-2021-E-01567

Project Name: Oro Cruz

Project Type: MINING

Project Description: Mine

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.8735665,-114.81136953158614,14z>



Counties: Imperial County, California

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX C

BLM El Centro Sensitive Species



BLM Special Status Animal Species by Field Office

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Alturas	24 Species					
	Mammal					
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacific) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sage-grouse	Centrocercus urophasianus	FC		BLMS	SSC
	Greater sandhill crane	Grus canadensis tabida		ST	BLMS	SF
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Reptile					
	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	
	Amphibian					
	Oregon spotted frog	Rana pretiosa	FC		BLMS	
	Western spadefoot toad	Spea hammondii			BLMS	
	Fish					
	Lost River sucker	Deltistes luxatus	FE	SE		SF
	Modoc sucker	Catostomus microps	FE	SE		SF
	Pacific lamprey	Entosphenus tridentatus			BLMS	
	Rough sculpin	Cottus asperimus		ST	BLMS	
	Shortnose sucker	Chasmistes brevirostris	FE	SE		SF
	Invertebrate					

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

All BLM CALIFORNIA SPECIAL STATUS PLANTS

Thursday, May 28, 2015

11:00:38 AM

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH		
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	VASC	Nyctaginaceae			BLMS	1B.1		G4G5T2	S1		No	29-Apr-13	Formerly subsp. <i>breviflora</i> (Standl.) Munz.		K															
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	VASC	Nyctaginaceae			BLMS	1B.1		G5T3T4	S2		No	06-Aug-13	CNDDDB occurrences 2 and 91 are on BLM lands in the Palm Springs Field Office.						S					K						
<i>Acanthomintha ilicifolia</i>	San Diego thornmint	VASC	Lamiaceae	FT	SE		1B.1		G1	S2		No	12-Mar-15	Status changed from "K" to "S" on 8/6/2013. Naomi Fraga was unable to find the species on BLM lands when trying to collect seeds in 2012. Although there are several CNDDDB occurrences close to BLM lands, none of these actually intersect with BLM lands.															S		
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenberry oxytheca	VASC	Polygonaceae	FE			1B.1		G4?T1	S1		No	06-Aug-13	Formerly <i>Oxytheca parishii</i> var. <i>goodmaniana</i> . Name change based on Reveal, J.L. 2004. Nomenclatural summary of Polygonaceae subfamily Eriogonoideae. Harvard Papers in Botany 9(1):144. A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.				K													
<i>Acmispon argyraeus</i> var. <i>multicaulis</i>	scrub lotus	VASC	Fabaceae			BLMS	1B.3		G4?T2	S2		No	13-Sep-12	Formerly <i>Lotus argyraeus</i> (Greene) Greene var. <i>multicaulis</i> (Ottley) Isely. Occurs on BLM lands in vicinity of Dinosaur Trackway ACEC. Occurrence there discovered in 2008 acc. Jim Weigand.																K	
<i>Acmispon rubriflorus</i>	red-flowered lotus	VASC	Fabaceae			BLMS	1B.1		G1	S1		No	16-Nov-10	Formerly <i>Lotus rubriflorus</i> H.K. Sharsm.																S	

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH	
<i>Agave utahensis var. eborispina</i>	ivory-spined agave	VASC	Agavaceae			BLMS	1B.3		G4T3Q	S2		No	08-Dec-10	Added to list on 12/8/2010. Species documented in April 2010 as part of CNPS Rare Plant Treasure Hunt on limestone outcrops in Chicago Canyon, Nopah Range, at a location where it was first discovered in 1978 (CNDDDB Occurrence No. 4). Other older locations are also on BLM lands.				K												
<i>Agrostis blasdalei</i>	Blasdale's bent grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	29-Apr-13	On Shell Island off of Sea Ranch, Sonoma County, part of the California Coastal National Monument (source: Jim Weigand). Also suspected on the Stornetta Unit because it is known from closeby at Manchester State Beach (Jim Weigand, 2/3/2015).																K
<i>Agrostis hooveri</i>	Hoover's bent grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	29-Apr-13				K													
<i>Agrostis lacuna-vernalis</i>	vernal pool bent grass	VASC	Poaceae			BLMS	1B.1		G1	S1		No	18-Sep-12	New species added as California Rare Plant Rank 1B.1 on 6-14-2012. Known only from Butterfly Valley and Machine Gun Flats in the Fort Ord National Monument and adjacent Army lands.							K									
<i>Albatrellus caeruleoporus</i>	blue-pored polypore	FUNG	Albatrellaceae			BLMS			G3?	S1		No	16-Nov-10	G and S Heritage Rankings are from Oregon Natural Heritage Information Center 2007.		S														
<i>Albatrellus ellisii</i>	greening goat's foot	FUNG	Albatrellaceae			BLMS			G4	S2S3		No	16-Nov-10	G and S Heritage Rankings are from Oregon Natural Heritage Information Center 2007.		S														
<i>Albatrellus flettii</i>	blue-capped polypore	FUNG	Albatrellaceae			BLMS			None	None		No	16-Nov-10			S														
<i>Allium hickmanii</i>	Hickman's onion	VASC	Alliaceae			BLMS	1B.2		G2	S2		No	29-Apr-13	Fort Ord. Added based on 9/9/08 email from Bruce Delgado								K								
<i>Allium jepsonii</i>	Jepson's onion	VASC	Alliaceae			BLMS	1B.2		G1	S1		No	15-Nov-10										K		S					
<i>Allium munzii</i>	Munz's onion	VASC	Alliaceae	FE	ST		1B.1		G1	S1		No	13-Sep-12											S						
<i>Allium shevockii</i>	Spanish Needle onion	VASC	Alliaceae			BLMS	1B.3		G2	S2		No	15-Nov-10	Southern Sierra Nevada.			K										K			

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH			
<i>Allium tuolumense</i>	Rawhide Hill onion	VASC	Alliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12										K									
<i>Ambrosia pumila</i>	San Diego ambrosia	VASC	Asteraceae	FE			1B.1		G1	S1		No	06-Aug-13	CNDDDB Occurrence 54 is based on a 2005 collection by Salvato (UCR167870). CNDDDB shows BLM as the land owner and most of the mapped 2/5 mile radius circle is BLM. On the basis of this occurrence the status was changed from "S" to "K" on 8/6/2013.																	K	
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	VASC	Boraginaceae			BLMS	1B.2		G2?	S2?		No	13-Sep-12	Walker Ridge/Bear Creek (Source: Jim Weigand). Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).																S		K
<i>Ancistrocarphus keilii</i>	Santa Ynez groundstar	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	15-Nov-10				S															
<i>Anisocarpus scabridus</i>	scabrid alpine tarplant	VASC	Asteraceae			BLMS	1B.3		G2G3	S2S3		No	15-Nov-10																		S	
<i>Arabis mcdonaldiana</i>	McDonald's rock-cress	VASC	Brassicaceae	FE	SE		1B.1		G2	S2		Yes	13-Sep-12	Name change from <i>Arabis mcdonaldiana</i> to <i>Arabis mcdonaldiana</i> as of March 3, 2011.		K																
<i>Arctostaphylos bakeri subsp. sublaevis</i>	The Cedars manzanita	VASC	Ericaceae			BLMS	1B.2		G2T2	S2		No	23-Oct-12	CNDDDB occurrence 1 on BLM and pvt lands at The Cedars. Headwaters of Big Austin Creek and East Austin Creek. 10,000's of plants according to CNDDDB.																	K	

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH	
<i>Arctostaphylos canescens</i> <i>subsp. sonomensis</i>	Sonoma canescent manzanita	VASC	Ericaceae			BLMS	1B.2		G3G4T2	S2		No	31-Mar-15	Walker Ridge/Bear Creek (Source: Jim Weigand). Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).																K
<i>Arctostaphylos cruzensis</i>	Arroya de La Cruz manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	31-Mar-15								S									
<i>Arctostaphylos glandulosa</i> <i>ssp. gabrielensis</i>	Gabilan Mountains manzanita	VASC	Ericaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12	Name change from <i>Arctostaphylos gabrielensis</i> to <i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i> as of August 23, 2010							S									
<i>Arctostaphylos hookeri</i> <i>subsp. hookeri</i>	Hooker's manzanita	VASC	Ericaceae			BLMS	1B.2		G3T2	S2		No	31-Mar-15									K								
<i>Arctostaphylos klamathensis</i>	Klamath manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	31-Mar-15												S					
<i>Arctostaphylos montereyensis</i>	Monterey manzanita	VASC	Ericaceae			BLMS	1B.2		G2?	S2?		No	31-Mar-15	Fort Ord.								K								
<i>Arctostaphylos morroensis</i>	Morro manzanita	VASC	Ericaceae	FT			1B.1		G2	S2		Yes	13-Sep-12				K													
<i>Arctostaphylos myrtifolia</i>	lone manzanita	VASC	Ericaceae	FT			1B.2		G2	S2		No	13-Sep-12										K							
<i>Arctostaphylos nissenana</i>	Nissenan manzanita	VASC	Ericaceae			BLMS	1B.2		G1	S1		No	31-Mar-15										K							
<i>Arctostaphylos otayensis</i>	Otay manzanita	VASC	Ericaceae			BLMS	1B.2		G2	S2		No	31-Mar-15												K					
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	VASC	Ericaceae			BLMS	1B.1		G1	S1		No	31-Mar-15	Fort Ord. Added based on 9/9/08 email from Bruce Delgado.								K								
<i>Arctostaphylos pilosula</i>	Santa Margarita manzanita	VASC	Ericaceae			BLMS	1B.2		G3	S3		No	13-Sep-12				K													
<i>Arctostaphylos pumila</i>	sandmat manzanita	VASC	Ericaceae			BLMS	1B.2		G1	S1		No	31-Mar-15									K								

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH			
<i>Arctostaphylos rainbowensis</i>	rainbow manzanita	VASC	Ericaceae			BLMS	1B.1		G2	S2		No	31-Mar-15	CNDDDB Occurrence 43 is on BLM lands in Riverside County. Occurrence 56, is based on a 2005 collection by Woelfel and Woelfel, who claim it was collected on BLM lands in San Diego County, but CNDDDB maps it as a 1/5 mile radius circle, some of which is BLM and some of which is private. Some other occurrences are close to but not on BLM lands.																	K	
<i>Arctostaphylos rudis</i>	sand mesa manzanita	VASC	Ericaceae			BLMS	1B.2		G2	S2		No	31-Mar-15				K															
<i>Aristocapsa insignis</i>	Indian Valley spineflower	VASC	Polygonaceae			BLMS	1B.2		G2?	S2?		No	31-Mar-15				S															
<i>Astragalus agnicidus</i>	Humboldt milk-vetch	VASC	Fabaceae		SE	BLMS	1B.1		G3	S3		No	13-Sep-12			S																
<i>Astragalus agrestis</i>	field milk-vetch	VASC	Fabaceae			BLMS	2.B2		G5	S2?		No	31-Mar-15	This species is rather widespread elsewhere, so the primary value of this population is its disjunct location in CA, and maintaining the genetic viability of the species across its range.	K				K													
<i>Astragalus albens</i>	Cushenberry milk-vetch	VASC	Fabaceae	FE			1B.1		G1	S1		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.				K														
<i>Astragalus anxius</i>	Ash Valley milk-vetch	VASC	Fabaceae			BLMS	1B.3		G1	S1		No		In Ash Valley ACEC/RNA.	K																	
<i>Astragalus argophyllus</i> var. <i>argophyllus</i>	silverleaf milk-vetch	VASC	Fabaceae			BLMS	2B.2		G5T4	S1		No	31-Mar-15					K	K													
<i>Astragalus atratus</i> var. <i>mensanus</i>	Darwin Mesa milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4G5T1	S1		No	13-Sep-12	On Darwin Mesa.													K					
<i>Astragalus bernardinus</i>	San Bernardino Milk-Vetch	VASC	Fabaceae			BLMS	1B.2		G2G3	S2S3		No	06-Aug-13	Currently shown in Little San Bernardino Mountains, Little San Bernardino Mountains, New York Mountains, and Big Horn Mountains. There are 33 known occurrences in CNDDDB, 12 between 1992 and 2011.			K							K								

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<i>Astragalus brauntonii</i>	Braunton's milk-vetch	VASC	Fabaceae	FE			1B.1		G2	S2		Yes	13-Sep-12											S						
<i>Astragalus cimae var. sufflatus</i>	inflated Cima milk-vetch	VASC	Fabaceae			BLMS	1B.3		G3T3	S3		No	31-Mar-15	CNDDDB Occurrence number 2 is on BLM lands within the new boundary of the Cerro Gordo/Conglomerate Mesa ACEC.												K				
<i>Astragalus deanei</i>	Deane's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G1	S1		No	31-Mar-15																	
<i>Astragalus douglasii var. perstrictus</i>	Jacumba milk-vetch	VASC	Fabaceae			BLMS	1B.2		G5T2?	S2?		No	31-Mar-15																	
<i>Astragalus ertterae</i>	Walker Pass milk-vetch	VASC	Fabaceae			BLMS	1B.3		G2	S2		No				K											K			
<i>Astragalus funereus</i>	black milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2	S2.2		No					K													
<i>Astragalus hornii var. hornii</i>	Horn's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4G5T2 T3	S1		No	13-Sep-12			K														
<i>Astragalus jaegerianus</i>	Lane Mtn. milk-vetch	VASC	Fabaceae	FE			1B.1		G1	S1		No	13-Sep-12				K													
<i>Astragalus johannis-howellii</i>	Long Valley milkvetch	VASC	Fabaceae		SR	BLMS	1B.2		G2	S2		No	31-Mar-15					K												
<i>Astragalus lemmonii</i>	Lemmon's milk-vetch	VASC	Fabaceae			BLMS	1B.2	W	G2	S2		No	13-Sep-12							S										
<i>Astragalus lentiformis</i>	lens-pod milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2	S2		No								K										
<i>Astragalus lentiginosus var. coachellae</i>	Coachella Valley milk-vetch	VASC	Fabaceae	FE			1B.2		G5T1	S1		No	31-Mar-15															K		
<i>Astragalus lentiginosus var. piscinensis</i>	Fish Slough milk-vetch	VASC	Fabaceae	FT			1B.1		G5T1	S1		Yes	13-Sep-12					K												
<i>Astragalus magdalenae var. peirsonii</i>	Peirson's milk-vetch	VASC	Fabaceae	FT	SE		1B.2		G3G4T2	S2		No	13-Sep-12								K									
<i>Astragalus mojavensis var. hemigyus</i>	curved-pod milkvetch	VASC	Fabaceae			BLMS	1B.1		G3G4T2 T3	S1		No	15-Nov-10	Formerly on List 1A. Rediscovered on Darwin Mesa by Dana York in 2001 and verified in 2009.														K		
<i>Astragalus monoensis</i>	Mono milk-vetch	VASC	Fabaceae		SR	BLMS	1B.2		G2	S2		No	31-Mar-15	Was <i>A. monoensis</i> var. <i>monoensis</i> until the former <i>A. m.</i> var. <i>ravenii</i> was elevated to its own species (<i>A. ravenii</i> Barneby).					K											

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<i>Astragalus nyensis</i>	Nye milk-vetch	VASC	Fabaceae			BLMS	1B.1		G3	S1		No	18-Sep-12	CNDDDB mapped 19 specific occurrences of this species found during surveys for a private solar development project in 2011. Specific occurrence number 2 is mapped on BLM lands (occurrence rating poor, only 1 plant found). Although the records in RareFind for occurrences 9 and 13 state that those occurrences occupy both private and BLM lands, both occurrences are mapped only on private lands.				K													
<i>Astragalus oocarpus</i>	San Diego rattleweed	VASC	Fabaceae			BLMS	1B.2		G3	S3		No	31-Mar-15																	K	
<i>Astragalus oophorus var. lavinii</i>	Lavin's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T2	S1		No	15-Nov-10	Bodie Hills.					K												
<i>Astragalus pachypus var. jaegeri</i>	Jaeger's bush milk-vetch	VASC	Fabaceae			BLMS	1B.1		G4T1	S1		No	30-Jul-13	CNDDDB Occurrence 43, in Riverside County, is nonspecific, mapped in a 1 mile radius circle that includes BLM, State, and private lands; it is based on old (1880 and 1881) collections. Nonspecific Occurrence 6, also in Riverside County, has some BLM lands mapped inside a 1 mile radius circle, but most lands in the circle are private.																	S
<i>Astragalus pseudiodanthus</i>	Tonopah milk-vetch	VASC	Fabaceae			BLMS	1B.2		G3Q	S2		No	31-Mar-15						K												
<i>Astragalus pulsiferae var. pulsiferae</i>	Pulsifer's milk-vetch	VASC	Fabaceae			BLMS	1B.2	W	G4T2	S2 in CA; S1 in NV		No								K											

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<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>	Suksdorf's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Occurrences formerly attributed to this species in the northern part of its range (formerly K in Alturas and Eagle Lake) are now <i>A. pulsiferae</i> var. <i>coronensis</i> [Welsh, S.L., R. Ondricek, and G. Clifton 2002. Varieties of <i>Astragalus pulsiferae</i> (Leguminosae). Rhodora 104:271-279]. Suspected in the Eagle Lake Field Office on conifer sites near Lake Almanor.						S									
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	VASC	Fabaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15			K													
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G4T3	S3		No	13-Sep-12	Documented within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).											S				K
<i>Astragalus shevockii</i>	Shevock's milk-vetch	VASC	Fabaceae			BLMS	1B.3		G3	S3		No	28-Apr-15				K												
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris's milk-vetch	VASC	Fabaceae			BLMS	1B.1		G1T1	S1		No	13-Sep-12												S				
<i>Astragalus tiehmii</i>	Tiehm's milk-vetch	VASC	Fabaceae			BLMS		W	G3	S2		No	28-Apr-15	Entire distribution of this plant is on public lands administered by the Surprise FO. Nevada only.														K	
<i>Astragalus tricarinatus</i>	triple-ribbed milk-vetch	VASC	Fabaceae	FE			1B.2		G1	S1		No	13-Sep-12												K				
<i>Astragalus webberi</i>	Webber's milk-vetch	VASC	Fabaceae			BLMS	1B.2		G1	S1		No								S									

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<i>Atriplex argentea</i> var. <i>longitrichoma</i>	Pahrump orache	VASC	Chenopodiaceae			BLMS	1B.1		G5T2	S2		No	03-Oct-11	The only two occurrences in CA are mapped by CNDDDB on BLM lands in CA near the NV border. The occurrences are based on a 1983 collection by Mary DeDecker and on a 1991 collection by Stutz. Added to BLM SS plant list on 10/3/2011. Not sure why this species had not previously been on our list.				K											
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heart-leaved saltbush	VASC	Chenopodiaceae			BLMS	1B.2		G3T2	S2		No	28-Apr-15	Occurrence number 82 in the CNDDDB is on BLM lands in the Carrizo Plain. Other occurrences in the San Joaquin Valley are proximate to BLM lands.			K												
<i>Atriplex cordulata</i> var. <i>erecticaulis</i>	Earlimart orache	VASC	Chenopodaceae			BLMS	1B.2		G3T1	S1		No	28-Apr-15	Formerly <i>A. erecticaluis</i> Stutz, Chu & Sanderson.			S												
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	VASC	Chenopodiaceae	FE			1B.1		G4T1	S1		No	26-Aug-09	This plant had been considered K for many years but review of CNDDDB on 8-26-09 shows no occurrences on BLM lands.											S				
<i>Atriplex coronata</i> var. <i>vallicola</i>	Lost Hills crownscale	VASC	Chenopodiaceae			BLMS	1B.2		G4T2	S2		No	15-Nov-10	Formerly <i>A. vallicola</i> Hoover.			K												
<i>Atriplex subtilis</i>	subtle orache	VASC	Chenopodaceae			BLMS	1B.2		G1	S1		No	28-Apr-15				S												
<i>Baccharis vanessae</i>	Encinitas coyotebrush	VASC	Asteraceae	FT	SE		1B.1		G1	S1		No	06-Aug-13	CNDDDB Occurrence 30 is on BLM lands--11 plants observed in 2000 on south side of Otay Mountains in wilderness.											K				
<i>Balsamorhiza lanata</i>	woolly balsamroot	VASC	Asteraceae			BLMS	1B.2		G3	S3		No	13-Sep-12	Elevated to <i>B. lanata</i> from <i>B. hookeri</i> Nutt. var. <i>lanata</i> Sharp.												K			

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<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Formerly <i>B. macrolepis</i> Sharp var. <i>macrolepis</i> . Jepson Manual 2nd edition submerges <i>B. m.</i> var. <i>platylepis</i> (Sharp) Ferris, which was the only variety, into <i>B. hookeri</i> Nutt. Documented in the Ukiah Field Office within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).																K			
<i>Balsamorhiza sericea</i>	silky balsamroot	VASC	Asteraceae			BLMS	1B.3		G4Q	S3		No	28-Apr-15																	S			
<i>Berberis harrisoniana</i>	Kofa Mountain barberry	VASC	Berberidaceae			BLMS	1B.2		G1G2	S1		No	28-Apr-15	In Whipple Wash																			
<i>Berberis nevinii</i>	Nevin's barberry	VASC	Berberidaceae	FE	SE		1B.1		G1	S1		No	13-Sep-12	Formerly <i>Mahonia nevinii</i> (Gray) Fedde																	K		
<i>Bloomeria clevelandii</i>	San Diego goldenstar	VASC	Themidaceae			BLMS	1B.1		G2	S2		No	06-Aug-13	Formerly <i>Muilla clevelandii</i> (S. Watson) Hoover. See discussion at: http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=121293 . CNDDDB specific Occurrence 19 is on both BLM and private lands. Occurrence 41 appears to be partially on BLM lands as well. Status changed from "S" to "K" on 8/6/2013.																			K
<i>Boechera bodiensis</i>	Bodie Hills rock cress	VASC	Brassicaceae			BLMS	1B.3		G2	S2		No	15-Nov-10	Formerly <i>Arabis bodiensis</i> Roll.					K														
<i>Boechera lincolnensis</i>	Lincoln rock cress	VASC	Brassicaceae			BLMS	2B.3		G4?	S2		No	28-Apr-15	Formerly <i>Arabis pulchra</i> S. Watson var. <i>munciensis</i> M.E. Jones. On Darwin Mesa. Formerly known as Darwin rock cress.																		K	
<i>Boechera serpenticola</i>	Serpentine Rockcress	VASC	Brassicaceae			BLMS	1B.2		G1	S1		No	13-Sep-12	CNDDDB maps nonspecific areas immediately adjacent to BLM lands near summit of Bully Choop Mountain. North-facing slopes on serpentine talus.																		S	

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<i>Boletus haematinus</i>	red-pored bolete	FUNG	Boletaceae			BLMS			G2G3	S2?		Yes	28-Apr-15		S														
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	VASC	Themidaceae	FT	SE		1B.1		G1	S1		No	06-Aug-13	CNDDDB specific Occurrence 25 is partly on BLM lands. Status changed from "S" to "K" on 8/6/2013.										K					
<i>Brodiaea insignis</i>	Kaweah brodiaea	VASC	Themidaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12			S													
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	VASC	Themidaceae			BLMS	1B.1		G2	S2		No	28-Apr-15												K				
<i>Brodiaea rosea</i>	Indian Valley brodiaea	VASC	Themidaceae		SE	BLMS	1B.1		G2	S2		No	28-Apr-15	Formerly <i>Brodiaea coronaria</i> (Salisb.) Engler subsp. <i>rosea</i> (Greene) Niehaus. Jepson Manual 2nd edition elevates to species.											S			K	
<i>Bryoria pseudocapillaris</i>	horsehair lichen	LICH	Parmeliaceae			BLMS	3.2		G3	S2		No	28-Apr-15		K														
<i>Bryoria spiralifera</i>	twisted horsehair lichen	LICH	Parmeliaceae			BLMS	1B.1		G3	S1S2		No	26-Jan-15	Added to CDFW/CNPS list on 2/1/2010. Previously already on list as BLMS.	K														
<i>Bryoria tortuosa</i>	yellow-twist horsehair	LICH	Parmeliaceae			BLMS			G5	S2		No	28-Apr-15	S5 in OR; S3 in WA.	K											K			
<i>Buxbaumia viridis</i>	green bug moss	BRYO	Buxbaumiaceae			BLMS	2.2		G4G5	S2		No	03-Jun-13		K											S			
<i>California macrophylla</i>	round-leaved filaree	VASC	Geraniaceae			BLMS	1B.1		G2	S2		No	28-May-15	Nine CNDDDB occurrences on the Payne Ranch, Colusa and Lake counties, Ukiah Field Office. CNDDDB Occurrence 67 is on BLM lands in Riverside County, within the Palm Springs Field Office. Documented occurrences on BLM lands in the Carrizo Plain and on BLM lands in Hollister.		K								K				K	
<i>Calochortus clavatus var. avius</i>	Pleasant Valley mariposa lily	VASC	Liliaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12										S						
<i>Calochortus clavatus var. gracilis</i>	slender mariposa lily	VASC	Liliaceae			BLMS	1B.2		G4T2T3	S2S3		No	28-Apr-15	The large polygon for nonspecific CNDDDB Occurrence 18 in Los Angeles County overlaps some BLM lands and other occurrences are close to BLM lands in Los Angeles County.											S				

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<i>Calochortus dunnii</i>	Dunn's mariposa	VASC	Liliaceae		SR	BLMS	1B.2		G2?	S2?		No	28-Apr-15												K				
<i>Calochortus excavatus</i>	Inyo mariposa	VASC	Liliaceae			BLMS	1B.1		G2	S2		No	13-Sep-12					K											
<i>Calochortus fimbriatus</i>	late-flowered mariposa lily	VASC	Liliaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 41 on the Los Padres National Forest is within 800m of BLM lands in Ventura County. Added to the CNPS/CDFG lists as RPR 1B.3 on 10-26-2012.			S												
<i>Calochortus greenei</i>	Greene's mariposa	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	13-Sep-12															K	
<i>Calochortus longebarbatus</i> <i>var. longebarbatus</i>	long-haired star-tulip	VASC	Liliaceae			BLMS	1B.2		G4T3	S3		No			S													S	
<i>Calochortus monanthus</i>	Shasta River mariposa	VASC	Liliaceae			BLMS	1A		GH	SH		No																S	
<i>Calochortus obispoensis</i>	San Luis mariposa lily	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				S												
<i>Calochortus palmeri</i> <i>var. palmeri</i>	Palmer's mariposa lily	VASC	Liliaceae			BLMS	1B.2		G3T3?	s3?		No	28-Apr-15	CNDDDB occurrence number 66 is located on Ridgecrest Field Office parcels. CNDDDB occurrence 18 and 20 are located on scattered Bakersfield Field Office parcels.			K											K	
<i>Calochortus persistens</i>	Siskiyou mariposa lily	VASC	Liliaceae	FC	SR	BLMS	1B.2		G1	S1		No	28-Apr-15															S	
<i>Calochortus raichei</i>	The Cedars fairy-lantern	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	23-Oct-12	CNDDDB occurrences 4 and 8 are definitely on BLM land at The Cedars; occurrence 7 is mapped as occurring partly on BLM land but RareFind account says it occurs on private land.															K
<i>Calochortus simulans</i>	San Luis Obispo mariposa lily	VASC	Liliaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S												
<i>Calochortus striatus</i>	alkali mariposa lily	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	28-Apr-15				K	S										K	
<i>Calochortus westonii</i>	Shirley Meadows star-tulip	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				K												
<i>Calycadenia hooveri</i>	Hoover's calycadenia	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15				S												
<i>Calycadenia micrantha</i>	small-flowered calycadenia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15																S

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<i>Calycadenia villosa</i>	dwarf calycadenia	VASC	Asteraceae			BLMS	1B.1		G3	S3		No	28-Apr-15				S															
<i>Calyptridium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	VASC	Montiaceae			BLMS	1B.1		G3G4T2	S2		No	27-Jun-13	The Jepson Manual 2nd edition retains the genus <i>Calyptridium</i> as well as the combination <i>C. parryi</i> var. <i>hesseae</i> . Flora North America moves <i>Calyptridium</i> to <i>Cistanthe</i> and reduces this var. to a synonym of <i>Cistanthe parryi</i> . There are two collections by C. Matt Guilliams and Michael G. Simpson (SDSU17444/17445) on BLM near Big and Little Spanish Lakes in Clear Creek Rec. Area. There is another collection by Griffin (JEPS77709) on BLM in N. Clear Creek Canyon. None of these yet mapped in CNDDDB (as of 6/27/2013).																		
<i>Calyptridium pulchellum</i>	Mariposa pussypaws	VASC	Montiaceae	FT			1B.1		G1	S1		No	15-Nov-10	This is the treatment in the Jepson Manual 2nd edition. Flora North America puts this species into the genus <i>Cistanthe</i> .			S															
<i>Calystegia collina</i> subsp. <i>tridactylosa</i>	three-fingered morning-glory	VASC	Convolvulaceae			BLMS	1B.2		G4T1	S1		No	22-Nov-10	Known to occur on BLM Toney Creek holding, Eden Valley. Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).		K													K			
<i>Calystegia purpurata</i> subsp. <i>saxicola</i>	coastal bluff morning-glory	VASC	Convolvulaceae			BLMS	1B.2		G4T2T3	S2S3		No	26-Feb-15	Known from the Stornetta Unit, per the following collections: CAS263828, 1937, and RSA7999419, 2013.															K			

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<i>Calystegia stebbinsii</i>	Stebbins' morning glory	VASC	Convolvulaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12										K						
<i>Calystegia vanzuukiae</i>	Van Zuuk's morning-glory	VASC	Convolvulaceae			BLMS	1B.3		G2Q	S2		No	20-Jan-15	First described by Brummitt, R.K. and S.M. Namoff. 2013. <i>Calystegia vanzuukiae</i> (Convolvulaceae), a remarkable new species from Central California. <i>Aliso</i> 31(1): 15-18. Added as 1B.3 on July 16, 2014. On serpentine and gabbro soils in the Sierra Nevada foothills of Placer and El Dorado counties. On BLM lands according to Graciela Hinshaw (email dated June 11, 2014).									K						
<i>Camissonia benitensis</i>	San Benito evening-primrose	VASC	Onagraceae	FT			1B.1		G2	S2		Yes	13-Sep-12									K							
<i>Camissonia integrifolia</i>	Kern River evening-primrose	VASC	Onagraceae			BLMS	1B.3		G2	S2		No	13-Sep-12			S													
<i>Camissoniopsis hardhamiae</i>	Hardham's evening-primrose	VASC	Onagraceae			BLMS	1B.2		G1Q	S1		No	17-Mar-15	Formerly <i>Camissonia hardhamiae</i> P.H. Raven. Slightly less than half of CNDDDB specific occurrence 8 is mapped on BLM lands. Occurrence record reports lands as private, but this likely the result of not knowing where boundary with BLM was. Record from 4/10/1987.			K				S								
<i>Campanula californica</i>	swamp harebell	VASC	Campanulaceae			BLMS	1B.2		G3	S3		No	26-Feb-15	Known from the Stornetta Unit, per the following collection: SBBG124996, 1967.															K
<i>Campanula exigua</i>	chaparral harebell	VASC	Campanulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	CNDDDB maps a nonspecific occurrence based on two Griffin collections along Clear Creek Rd; also a collection in the area by C. & P. McMillan (JEPS3010) has not yet been mapped by CNDDDB (as of 6-27-2013).								K							
<i>Campanula sharsmithiae</i>	Sharsmith's harebell	VASC	Campanulaceae			BLMS	1B.2		G1	S1		No										S							
<i>Campanula shetleri</i>	Castle Crags harebell	VASC	Campanulaceae			BLMS	1B.3		G2	S2		No	28-Apr-15												S				

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<i>Carex klamathensis</i>	Klamath sedge	VASC	Cyperaceae			BLMS	1B.2		G2	S2		No	15-Nov-10	CNDDDB maps (Occurrence 3) within 1/2 mile of BLM lands in Tehama Co. BLM lands appear to have same serpentine substrate as Occurrence 3 in CNDDDB.											S						
<i>Carex obispoensis</i>	San Luis Obispo sedge	VASC	Cyperaceae			BLMS	1B.2		G2G3	S2S3		No	28-Apr-15				K														
<i>Carex saliniformis</i>	deceiving sedge	VASC	Cyperaceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Known from Alder Creek near Stornetta Unit, according to Jim Weigand (2/3/2015).															S		
<i>Carlquistia muirii</i>	Muir's raillardella	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	28-Apr-15	Formerly <i>Raillardopsis muirii</i> (Gray) Rydb.			K										K				
<i>Carpenteria californica</i>	tree-anemone	VASC	Hydrangeaceae		ST	BLMS	1B.2		G1?	S1?		No	28-Apr-15				S														
<i>Castilleja ambigua subsp. humboldtensis</i>	Humboldt Bay owl's-clover	VASC	Orobanchaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15			K															
<i>Castilleja ambigua subsp. Insalutata</i>	pink Johnny-nip	VASC	Orobanchaceae			BLMS	1B.1		G4T1	S1		No	26-Jan-15	Added to CDFW/CNPS list as 1B.1 on 3/1/2010. Occurrence Number 13 (nonspecific 4/5 mile) is on Fort Ord in vicinity of Henneken Flats, "Mima Mound Area." The mapped circle spans BLM and Army lands (the latter of which may be transferred to BLM in the future).									S								
<i>Castilleja campestris subsp. succulenta</i>	succulent owl's clover	VASC	Orobanchaceae	FT	SE		1B.2		G4?T2	S2		No	28-Apr-15	Formerly designated as "K" in the Hollister FO (see Occurrence #35 in the CNDDDB), but this is a holdover from the time the Hollister FO managed some of the public lands now in the Bakersfield FO.			K														
<i>Castilleja densiflora subsp. obispoensis</i>	Obispo Indian paintbrush	VASC	Orobanchaceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15				S														
<i>Castilleja gleasoni</i>	Mt. Gleason Indian paintbrush	VASC	Orobanchaceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Name change from <i>Castilleja gleasonii</i> to <i>Castilleja gleasoni</i> as of March 3, 2011.											S						

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<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	VASC	Orobanchaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Now known from the Stornetta Unit, as well as CCNM rocks at Mendocino. Stornetta collection: SBBG21322, 1964. Info from Jim Weigand, 2/3/2015.		S													K
<i>Castilleja rubicundula</i> <i>subsp. rubicundula</i>	pink creamsacs	VASC	Orobanchaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12	On BLM lands in Bear Creek Watershed acc to 12/10/08 email from Jim Weigand. Documented within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010).												S			K
<i>Caulanthus californicus</i>	California jewelflower	VASC	Brassicaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12				K												
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	VASC	Brassicaceae			BLMS	1B.2		G3	S3		No	28-Apr-15	Formerly <i>C. coulteri</i> Wats. var. <i>lemmonii</i> (Wats.) Munz.			K												
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	VASC	Rhamnaceae			BLMS	1B.1		G1	S1		No	28-Apr-15																S
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																K
<i>Ceanothus divergens</i>	Calistoga ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																S
<i>Ceanothus ferrisiae</i>	coyote ceanothus	VASC	Rhamnaceae	FE			1B.1		G2	S2		Yes	13-Sep-12																
<i>Ceanothus hearstiorum</i>	Hearst's ceanothus	VASC	Rhamnaceae		SR	BLMS	1B.2		G1	S1		No																	

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<i>Ceanothus otayensis</i>	Otay Mountain ceanothus	VASC	Rhamnaceae			BLMS	1B.2		G1	S1		No	30-Jul-13	CNDDDB Occurrence 4 is clearly on BLM lands on the south slope of Otay Mountain, based on a 2001 field survey form from Julie Evens. Nonspecific Occurrence 1, on the northeast face of Otay Mountain, has its entire mapped 1-mile radius circle on BLM lands, as does the nonspecific 2/5 mile radius circle of Occurrence 2.																K		
<i>Ceanothus roderickii</i>	Pine Hill ceanothus	VASC	Rhamnaceae	FE	SR		1B.2		G1	S1		Yes	13-Sep-12										K									
<i>Centromadia parryi subsp. congdonii</i>	Congdon's tarplant	VASC	Asteraceae			BLMS	1B.1		G3T2	S2		No	28-Apr-15	Formerly <i>Hemizonia parryi</i> Greene subsp. <i>congdonii</i> (Rob. & Greenm.) Keck; Fort Ord. Rare Plant Rank changed from 1B.2 to 1B.1 by CNPS/CDFW on 11-5-2012.								K										
<i>Centromadia parryi subsp. parryi</i>	pappose tarplant	VASC	Asteraceae			BLMS	1B.2		G3T1	S1		No	28-Apr-15	Formerly <i>Hemizonia parryi</i> Greene. Known in Bear Creek watershed acc. 12/10/2008 email from Jim Weigand.																	K	
<i>Chaenactis glabriuscula var. orcuttiana</i>	Orcutt's pincushion	VASC	Asteraceae			BLMS	1B.1		G5T1	S1		No	18-Sep-12	CNDDDB historic, nonspecific occurrence 12 on land slated for wind energy. There are BLM lands inside the 1 mile radius circle, but most of the lands inside the circle are private.																		
<i>Chaenactis suffrutescens</i>	Shasta chaenactis	VASC	Asteraceae			BLMS	1B.3		G3	S3		No																			K	
<i>Chamaesyce hooveri</i>	Hoover's spurge	VASC	Euphorbiaceae	FT			1B.2		G2	S2		Yes	13-Sep-12	Formerly <i>Chamaesyce hooveri</i> (Wheeler) Koutnik.																	S	
<i>Chlorogalum grandiflorum</i>	Red Hills soaproot	VASC	Agavaceae			BLMS	1B.2		G3	S3		No	13-Sep-12										K									
<i>Chlorogalum pomeridianum var. minus</i>	dwarf soaproot	VASC	Agavaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12																		K	K
<i>Chlorogalum purpureum var. purpureum</i>	purple amole	VASC	Agavaceae	FT			1B.1		G2T2	S2		No	13-Sep-12	Critical Habitat, known habitat in Bakersfield Field Office (Mineral Estate).			S					S										

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<i>Chloropyron maritimum subsp. palustre</i>	Pt. Reyes birds-beak	VASC	Orobanchaceae			BLMS	1B.2		G4?T2	S2		No	28-Apr-15	Name change from <i>Cordylanthus maritimum</i> subsp. <i>palustris</i> to <i>Chloropyron maritimum</i> subsp. <i>palustre</i> as of March 3, 2011.		K													
<i>Chloropyron molle subsp. hispidum</i>	hispid bird's-beak	VASC	Orobanchaceae			BLMS	1B.1		G2T2	S2		No	28-Apr-15	Name change from <i>Cordylanthus mollis</i> subsp. <i>hispidus</i> to <i>Chloropyron molle</i> subsp. <i>hispidum</i> as of March 3, 2011.			S				S								
<i>Chloropyron tecopense</i>	Tecopa bird's-beak	VASC	Orobanchaceae			BLMS	1B.2		G2	S1		No	03-Oct-11	Name change from <i>Cordylanthus tecopensis</i> to <i>Chloropyron tecopense</i> as of March 3, 2011.				K											
<i>Choiromyces venosus</i>	hypogeous truffle	FUNG	Tuberaceae			BLMS			G4G5	S1		No	28-Apr-15	Also S1 in OR.		K													
<i>Chorizanthe biloba var. immemora</i>	Hernandez spineflower	VASC	Polygonaceae			BLMS	1B.2		G3T1?	S1?		No	13-Sep-12	Near mouth of Clear Creek.								K							
<i>Chorizanthe breweri</i>	Brewer's spineflower	VASC	Polygonaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S												
<i>Chorizanthe parryi var. parryi</i>	Parry's spineflower	VASC	Polygonaceae			BLMS	1B.1		G3T3	S3		No	28-Apr-15	Occurrences 74 and 79 in CNDDDB definitely on BLM lands; Occurrence 43 may be on BLM lands.											K				
<i>Chorizanthe polygonoides var. longispina</i>	long-spined spineflower	VASC	Polygonaceae			BLMS	1B.2		G5T3	S3		No	18-Sep-12	Specific CNDDDB occurrences on BLM lands in Palm Springs, nonspecific CNDDDB occurrence number 133 in El Centro includes BLM lands slated for renewable energy within the 1 mile radius mapped circle.							S				K				
<i>Chorizanthe pungens var. pungens</i>	Monterey spineflower	VASC	Polygonaceae	FT			1B.2		G2T2	S2		Yes	13-Sep-12									K							
<i>Chorizanthe rectispina</i>	straight-awned spineflower	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No				K						K							
<i>Chorizanthe robusta var. robusta</i>	robust spineflower	VASC	Polygonaceae	FE			1B.1		G2T1	S1		Yes	15-Nov-10									S							

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<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	VASC	Polygonaceae			BLMS	1B.2		G4T3	S3		No	28-Apr-15	CNDDDB nonspecific Occurrence 33 near Old Woman Springs has BLM lands within the mapped 1-mile radius circle in the Barstow Field Office. Several specific and nonspecific occurrences are on BLM lands in the Palm Springs Field Office in and near Whitewater Canyon.			S							K					
<i>Cirsium ciliolatum</i>	Ashland thistle	VASC	Asteraceae		SE	BLMS	2B.1		G3	S1		No	28-Apr-15												S				
<i>Cirsium crassicaule</i>	slough thistle	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15			S													
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton thistle	VASC	Asteraceae			BLMS	1B.2		G2T2	S2		No	13-Sep-12								S								
<i>Cirsium fontinale</i> var. <i>obispoense</i>	Chorro Creek bog thistle	VASC	Asteraceae	FE	SE		1B.2		G2T2	S2		Yes	13-Sep-12			S													
<i>Cirsium occidentale</i> var. <i>lucianum</i>	Cuesta Ridge thistle	VASC	Asteraceae			BLMS	1B.2		G3G4T2	S2		No	13-Sep-12	CNDDDB maps about a mile from BLM lands near Santa Margarita Lake.			S												
<i>Cirsium rhotophilum</i>	surf thistle	VASC	Asteraceae		ST	BLMS	1B.2		G1	S1		No	13-Sep-12	On BLM lands at the Point Sal ACEC.			K												
<i>Cirsium scariosum</i> var. <i>loncholepis</i>	La Graciosa thistle	VASC	Asteraceae	FE	ST		1B.1		G5T1	S1		No	13-Sep-12	Critical Habitat, potential habitat in the Bakersfield Field Office (Mineral Estate). Name change from <i>Cirsium loncholepis</i> to <i>Cirsium scariosum</i> var. <i>loncholepis</i> as of March 3, 2011.			S												
<i>Clarkia australis</i>	small southern clarkia	VASC	Onagraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			S													
<i>Clarkia biloba</i> subsp. <i>australis</i>	Mariposa clarkia	VASC	Onagraceae			BLMS	1B.2		G4G5T2 T3	S2S3		No	28-Apr-15									K							
<i>Clarkia biloba</i> subsp. <i>brandegeae</i>	Brandegee's clarkia	VASC	Onagraceae			BLMS	1B.2		G4G5T4	S2S3		No	28-Apr-15									K		K					
<i>Clarkia borealis</i> subsp. <i>arida</i>	Shasta clarkia	VASC	Onagraceae			BLMS	1B.1		G3T2	S2		No	18-Apr-13												K				
<i>Clarkia borealis</i> subsp. <i>borealis</i>	northern clarkia	VASC	Onagraceae			BLMS	1B.3		G3T3	S3		No	28-Apr-15												S				

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<i>Clarkia delicata</i>	delicate clarkia	VASC	Onagraceae			BLMS	1B.2		G3	S3		No	28-Apr-15	Collections by Mark Elvin 3365 (UC Irvine IRVC27200), April 24, 2004, and Jon P. Rebman et al. 8824 (UC Irvine IRVC27254), May 4, 2003, are both on BLM lands on Otay Mountain. Nonspecific CNDDDB Occurrence 12 has some BLM lands within the mapped 1-mile radius circle.												K				
<i>Clarkia gracilis subsp. albicaulis</i>	white-stemmed clarkia	VASC	Onagraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15																	K
<i>Clarkia mildrediae subsp. mildrediae</i>	Mildred's clarkia	VASC	Onagraceae			BLMS	1B.3		G3T3	S3		No	13-Sep-12																	S
<i>Clarkia mosquinii</i>	Mosquin's clarkia	VASC	Onagraceae			BLMS	1B.1		G2	S2		No	15-Nov-10	Formerly <i>Clarkia mosquinii</i> subsp. <i>mosquinii</i> and <i>C. m.</i> subsp. <i>xerophila</i> .																K
<i>Clarkia rostrata</i>	beaked clarkia	VASC	Onagraceae			BLMS	1B.3		G3	S3		No	28-Apr-15																	K
<i>Clarkia springvillensis</i>	Springville clarkia	VASC	Onagraceae	FT	SE		1B.2		G2	S2		No	13-Sep-12			S														
<i>Clarkia tembloriensis subsp. calientensis</i>	Vasek's clarkia	VASC	Onagraceae			BLMS	1B.1		G3T1	S1		No	18-Apr-13			S														
<i>Clavariadelphus ligula</i>	strap coral	FUNG	Gomphaceae			BLMS			None	None		No	16-Nov-10		S															
<i>Clavulina castanopes var. lignicola</i>	'hairy-stemmed coral'	FUNG	Clavulinaceae			BLMS			None	None		No	16-Nov-10		S															
<i>Clinopodium chandleri</i>	San Miguel savory	VASC	Lamiaceae			BLMS	1B.2		G2	S2		No	30-Jul-13	CNDDDB occurrences 1, 2, and 3 are all on BLM lands north of Otay Mountain. Entire 1-mile radius circle of Occurrence 23 is on BLM lands on Otay Mountain.																K
<i>Clitocybe subditopoda</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G3G4	S1S3		No	28-Apr-15		K															
<i>Collinsia antonina</i>	San Antonio collinsia	VASC	Plantaginaceae			BLMS	1B.2		G1	S1		No	18-Apr-13									S								

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<i>Comarostaphylis diversifolia</i> subsp. <i>diversifolia</i>	summer holly	VASC	Rhamnaceae			BLMS	1B.2		G3T2	S2		No	30-Jul-13	CNDDDB Occurrences 10, 83, and 88 are on BLM lands in the Otay Mountain area. Collection SD191122 by Jonathon K. Snapp-Cook and others, April 28, 2006, is on BLM lands on the west side of Otay Mountain.																K					
<i>Cordyceps ophioglossoides</i>	truffle eater	FUNG	Clavicipitaceae			BLMS			G3G4	S3S4		No	28-Apr-15			S																			
<i>Cordylanthus nidularius</i>	Mt. Diablo bird's-beak	VASC	Orobanchaceae		SR	BLMS	1B.1		G1	S1		No	18-Apr-13									S													
<i>Cordylanthus rigidus</i> subsp. <i>littoralis</i>	seaside bird's-beak	VASC	Orobanchaceae		SE	BLMS	1B.1		G5T2	S2		No	13-Sep-12			K						K													
<i>Cordylanthus tenuis</i> subsp. <i>pallescens</i>	pallid bird's-beak	VASC	Orobanchaceae			BLMS	1B.2		G4G5T1	S1		No	13-Sep-12																		S				
<i>Croton wigginsii</i>	Wiggins' croton	VASC	Euphorbiaceae		SR	BLMS	2B.2		G2G3	S2		No	28-Apr-15																						
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	SE Red Mt.																	S				
<i>Cryptantha crinita</i>	silky cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																			K			
<i>Cryptantha dissita</i>	serpentine cryptantha	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Suspected to occur at Eden Valley, Arcata Field Office. Name change from <i>Cryptantha clevelandii</i> var. <i>dissita</i> to <i>Cryptantha dissita</i> as of March 3, 2011. Species found on Walker Ridge (Ukiah Field Office) as part of rare plant inventory for proposed wind energy development. Re-ranked from rare plant rank 1B.1 to 1B.2 on 10-25-2012.		S																		K	
<i>Cryptantha excavata</i>	deep-scarred cryptantha	VASC	Boraginaceae			BLMS	1B.3		G1	S1		No	28-Apr-15	Known from Walker Ridge/Bear Creek acc. Jim Weigand. Old, nonspecific CNDDDB occurrences mapped near BLM lands in Colusa County.																				K	
<i>Cryptantha ganderi</i>	Gander's cryptantha	VASC	Boraginaceae			BLMS	1B.1		G1G2	S1		No	13-Sep-12																					S	

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<i>Cryptantha mariposae</i>	Mariposa cryptantha	VASC	Boraginaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	Two collections by Vern Yadon, one in Clear Creek at 3307 ft elevation and the other at Santa Rita Peak, just below east side. CNDDDB doesn't yet show these occurrences (as of 6/27/2013) but this is because they didn't know about them at last update (pers. comm. Nick Jensen, May 2009). This is a significant range extension. The Yadon collections were still not mapped in CDDDB as of 4/28/2015.									K	K							
<i>Cryptantha roosiorum</i>	bristlecone cryptantha	VASC	Boraginaceae		SR	BLMS	1B.2		G2	S2		No	18-Apr-13					S											K		
<i>Cryptantha schoolcraftii</i>	Schoolcraft's cryptantha	VASC	Boraginaceae			BLMS	2B.2	W	G3	S1 (CA); S3 (NV)		No	28-Apr-15	Common name "ash cryptantha" used in Jepson Manual 2nd edition. Nevada Heritage Program uses "Schoolcraft catseye."																K	
<i>Cusickiella quadricostata</i>	Bodie Hills cusickiella	VASC	Brassicaceae			BLMS	1B.2		G3	S2		No	28-Apr-15					K													
<i>Cylindropuntia fosbergii</i>	pink teddy-bear cholla	VASC	Cactaceae			BLMS	1B.3		G2	S2		No	18-Sep-12	Treated as a hybrid, <i>C. xfosbergii</i> in the Jepson Manual, Second Edition, but based on a recent paper by Mayer et al. (<i>Madrone</i> 58: 106-112), CDFG and CNPS have elevated to specific level and assigned a California Rare Plant Rank of 1.3 (on 5-7-2012). Several occurrences on BLM lands in the Monument Peak Quadrangle.																	
<i>Cylindropuntia munzii</i>	Munz cholla	VASC	Cactaceae			BLMS	1B.3		G3	S1		No	18-Apr-13	Formerly <i>Opuntia munzii</i> C.B. Wolf.																	
<i>Cymopterus deserticola</i>	desert cymopterus	VASC	Apiaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	East of Cuddeback Lake and north of Edwards AFB.				K												K	
<i>Cymopterus ripleyi</i> var. <i>saniculooides</i>	Ripley's cymopterus	VASC	Apiaceae			BLMS	1B.2		G3G4T3 Q	S1		No	18-Apr-13	NE Haiwee Reservoir.																K	
<i>Cypripedium fasciculatum</i>	clustered lady's slipper	VASC	Orchidaceae			BLMS	4.2		G4	S4		No	28-Apr-15																	K	
<i>Cypripedium montanum</i>	mountain lady's slipper	VASC	Orchidaceae			BLMS	4.2		G4	S4		No	28-Apr-15																	K	

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<i>Dalea ornata</i>	ornate dalea	VASC	Fabaceae			BLMS	2B.1		G4G5	S2		No	28-Apr-15	Only six closely associated occurrences are known of this plant in CA, and they are disjunct from the others in western NV. Known from the Snake and Columbia valleys in E. WA, OR, and SW ID. Occurrences in CA are grazed and subject to invasion from medusahead and cheatgrass.					K										
<i>Dedeckera eurekaensis</i>	July gold	VASC	Polygonaceae		SR	BLMS	1B.3		G3	S3		No	28-Apr-15					K									K		
<i>Deinandra arida</i>	Red Rock tarplant	VASC	Asteraceae			BLMS	1B.2		G1	S1		No	18-Apr-13	Formerly <i>Hemizonia arida</i> Keck. Known to occur in Red Rock State Park.													S		
<i>Deinandra conjugens</i>	Otay tarplant	VASC	Asteraceae	FT	SE		1B.1		G1	S1		Yes	13-Sep-12	Formerly <i>Hemizonia conjugens</i> Keck. Review of CNDDDB does not show any occurrences on BLM land, though some are close.												S			
<i>Deinandra floribunda</i>	Tecate tarplant	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Hemizonia floribunda</i> A. Gray.													K		
<i>Deinandra halliana</i>	Hall's tarplant	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	13-Sep-12	Formerly <i>Hemizonia halliana</i> Keck.			S					K							
<i>Deinandra increscens subsp. villosa</i>	Gaviota tarplant	VASC	Asteraceae	FE	SE		1B.1		G4G5T2	S2		No	13-Sep-12	Formerly <i>Hemizonia increscens</i> Keck subsp. <i>villosa</i> Tanowitz. Proposed Critical Habitat, mineral estate.			S												
<i>Deinandra minthornii</i>	Santa Suzana tarplant	VASC	Asteraceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Hemizonia minthornii</i> Jeps.												S			

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<i>Deinandra mohavensis</i>	Mojave tarplant	VASC	Asteraceae		SE	BLMS	1B.3		G2G3	S2S3		No	30-Jul-13	Formerly <i>Hemizonia mohavensis</i> Keck. Already K for Ridgecrest and S for the Barstow Field Office. Added as S for the Bakersfield Field Office and K for the Palm Springs Field Office on 7/30/2013. CNDDDB occurrences 34, 66, and 67 are entirely on BLM lands in the Ridgecrest Field Office, inside the DRECP planning area, but outside DFAs under any alternative. Occurrence 68 is non-specific; a small part of the mapped 1/5 mi radius circle has BLM lands and is outside of DFAs under any alternative. Occurrences 69 and 33 are in the Bakersfield Field Office, outside of the DRECP boundary; both are nonspecific occurrences with some BLM land inside polygons, but the species may not actually occur on BLM lands. Occurrence 15 in the Palm Springs Field Office is on BLM lands in San Diego County. Occurrences 56 and 64 are both nonspecific occurrences in Palm Springs with some BLM land inside polygons. Occurrence 1 is a nonspecific, 1-mile radius occurrence; the circle straddles the DRECP boundary and a small part of the circle is on BLM lands in Barstow (within DRECP boundary); the rest is military, Forest Service, and private.			S	S														K	K		
<i>Delphinium hesperium subsp. cuyamaceae</i>	Cuyamaca larkspur	VASC	Ranunculaceae		SR	BLMS	1B.2		G4T2	S2		No	28-Apr-15																			S			
<i>Delphinium parryi subsp. blochmaniae</i>	dune larkspur	VASC	Ranunculaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15			S																			

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<i>Delphinium purpusii</i>	Kern County Larkspur	VASC	Ranunculaceae			BLMS	1B.3		G2	S2		No	13-Sep-12	Known only from rocky areas in Kern and Tulare counties with 15-20 occurrences known. Very localized with several occurrences on road cuts.			K													
<i>Delphinium recurvatum</i>	recurved larkspur	VASC	Ranunculaceae			BLMS	1B.2		G3	S3		No	13-Sep-12				K					K								
<i>Delphinium umbraculorum</i>	umbrella larkspur	VASC	Ranunculaceae			BLMS	1B.3		G3	S3		No	28-Apr-15				S													
<i>Dendriscoaulon intricatum</i>	northern moon shrub	LICH	Lobariaceae			BLMS			G3G4Q	S1		No	28-Apr-15			S											K			
<i>Dendrocollybia racemosa</i>	no common name	FUNG	Tricholomataceae			BLMS			G4	None		No	16-Nov-10	Formerly <i>Collybia racemosa</i> (Pers.) Quélet.			K										S			
<i>Dermocybe humboldtensis</i>	'little green mushroom'	FUNG	Cortinariaceae			BLMS			G1G2	S1?		No	28-Apr-15			K														
<i>Dieteria asteroides var. lagunensis</i>	Mount Laguna aster	VASC	Asteraceae		SR	BLMS	2B.1		G5T2T3 Q	S1		No	28-Apr-15	Formerly <i>Machaeranthera asteroides</i> (Torr.) Greene var. <i>lagunensis</i> (Keck) Turner.								K								
<i>Dithyrea maritima</i>	beach spectaclepod	VASC	Brassicaceae		ST	BLMS	1B.1		G2	S1		No	28-Apr-15	Removed from the "S" list for the Palm Springs Field Office on 8/6/2013 because no known occurrences are near BLM lands. Still considered "S" for the Bakersfield Field Office based on CNDDDB nonspecific Occurrence 29, the mapped 3/5 mile radius circle of which includes BLM lands at Point Sal.			S													
<i>Dodecahema leptoceras</i>	slender-horned spineflower	VASC	Polygonaceae	FE	SE		1B.1		G1	S1		No		Formerly <i>Centrostegia leptoceras</i> Gray.														K		
<i>Dudleya abramsii subsp. murina</i>	mouse-gray dudleya	VASC	Crassulaceae			BLMS	1B.3		G3T2	S2		No	28-Apr-15				S													
<i>Dudleya multicaulis</i>	many-stemmed dudleya	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	06-Aug-13	Status changed from "K" to "S" on 8/6/2013. Although nonspecific CNDDDB Occurrence 9 has BLM lands within it (as well as private lands), the observers cite the lands as private.											S					

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<i>Dudleya saxosa subsp. saxosa</i>	Panamint dudleya	VASC	Crassulaceae			BLMS	1B.3		G4T3	S3		No	13-Sep-12	Panamint Mts: on BLM lands in Surprise Canyon--see 2005 Surprise Canyon ADEIS.													K				
<i>Dudleya variegata</i>	variegated dudleya	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15												K						
<i>Echinocereus engelmannii var. howei</i>	Howe's hedgehog cactus	VASC	Cactaceae			BLMS	1B.1		G5T1	S1		No	18-Apr-13	<i>E. e. var. howei</i> not recognized in Jepson Manual 1st or 2nd edition or in Flora North America. It is recognized in the USDA Plants database. Original description is in the Cactus and Succulent Journal 46:80 (1974).										K							
<i>Enceliopsis covillei</i>	Panamint daisy	VASC	Asteraceae			BLMS	1B.2		G2?	S2?		No	28-Apr-15	Panamint Mts.													K				
<i>Entoloma nitidum</i>	'indigo entoloma'	FUNG	Entolomataceae			BLMS			G5	S1S3		No	28-Apr-15			K															
<i>Epilobium oreganum</i>	Oregon fireweed	VASC	Onagraceae			BLMS	1B.2		G2	S2		No	28-Apr-15															S			
<i>Epilobium siskiyouense</i>	Siskiyou fireweed	VASC	Onagraceae			BLMS	1B.3		G3	S3		No	28-Apr-15															S			
<i>Eremalche kernensis</i>	Kern mallow	VASC	Malvaceae	FE			1B.1		G3?T2Q	S2		Yes	18-Apr-13				K														
<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	VASC	Polemoniaceae			BLMS	1B.1		G1Q	S1		No	18-Apr-13	Reranked from California Rare Plant Rank 1B.2 to 1B.1 on 8-23-2012.													K		K		
<i>Eriastrum densifolium subsp. sanctorum</i>	Santa Ana River woollystar	VASC	Polemoniaceae	FE	SE		1B.1		G4T1	S1		No	13-Sep-12															K			
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	CNDDDB maps at least 3 occurrences on BLM lands in the Needles Field Office. Several new occurrences added in 2009 and 2010 as a result of solar power plant surveys and CNPS Rare Plant Treasure Hunt.										K	K						
<i>Eriastrum luteum</i>	yellow-flowered eriastrum	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15				K														
<i>Ericameria fasciculata</i>	Eastwood's goldenbush	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15																		
<i>Ericameria gilmanii</i>	Gilman's goldenbush	VASC	Asteraceae			BLMS	1B.3		G1	S1		No	13-Sep-12	Owens Peak.														S			
<i>Ericameria palmeri var. palmeri</i>	Palmer's goldernbush	VASC	Asteraceae			BLMS	1B.1		G4T2T3	S1		No	15-Nov-10	Moved from CNPS list 2.2 to 1B.1 on 8/12/09. CNDDDB Occurrence 2, anon-specific 1-mile radius circle, includes BLM lands within it.														S			

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<i>Erigeron aequifolius</i>	Hall's daisy	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15	S. Sierra.													K		
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			K													
<i>Erigeron calvus</i>	bald daisy	VASC	Asteraceae			BLMS	1B.1		G1Q	S1		No	18-Apr-13	This occurrence is based on a single collection by Olmstead in 1891. It is mapped as a best guess "just north of Swansea," and has a 1-mile radius circle to indicate a nonspecific occurrence. Most of the lands within that circle are BLM lands, so we should at least have the species on our list as suspected to occur. Although the Rarefind report states that there are taxonomic questions (and the Global Naturereserve rank of G1Q also indicates this), the species is included in both Jepson Manual 2 and the Flora of North America.				S											
<i>Erigeron multiceps</i>	Kern River daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			S													
<i>Erigeron parishii</i>	Parish's daisy	VASC	Asteraceae	FT			1B.1		G2	S2		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented. Until 8/6/2013 this was considered "K" in the Palm Springs Field Office, but a review of CNDDDB records shows that although there are many occurrences within the boundaries of the Palm Springs Field Office, none of these are near BLM lands.				K											
<i>Erigeron serpentinus</i>	serpentine daisy	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	23-Oct-12	CNDDDB Occurrence 3 is on BLM land at The Cedars.														K	
<i>Erigeron supplex</i>	supple daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Old records from the Garcia River just east of the Stornetta Unit, according to Jim Weigand (2/3/2015).														S	

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<i>Erigeron uncialis</i> var. <i>uncialis</i>	limestone daisy	VASC	Asteraceae			BLMS	1B.2		G3G4T2	S2		No	31-Mar-15	On private land within the new boundary of the Cerro Gordo/Conglomerate Mesa ACEC													S			
<i>Eriodictyon altissimum</i>	Indian Knob mountainbalm	VASC	Boraginaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12			S														
<i>Eriogonum alexanderae</i>	Alexander's buckwheat	VASC	Polygonaceae			BLMS	1B.1		G2G3	S1		No	07-Jul-12	Name changed from <i>Eriogonum ochrocephalum</i> var. <i>alexanderae</i> to <i>Eriogonum alexanderae</i> and rare plant rank changed from Rank 2.2 to 1B.1 on 11/29/2011. Located in Mono County on Bodie Mountain. Likely on BLM lands there.				S												
<i>Eriogonum apricum</i> var. <i>apricum</i>	lone buckwheat	VASC	Polygonaceae	FE	SE		1B.1		G1T1	S1		No	13-Sep-12										K							
<i>Eriogonum bifurcatum</i>	forked buckwheat	VASC	Polygonaceae			BLMS	1B.2		G3	S3		No	18-Apr-13				K													
<i>Eriogonum cedrorum</i>	The Cedars buckwheat	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No	23-Oct-12	Specific CNDDDB Occurrence 1 is mapped on BLM land at The Cedars.															K	
<i>Eriogonum contiguum</i>	Reveal's buckwheat	VASC	Polygonaceae			BLMS	2B.3		G2	S2		No	28-Apr-15	CNDDDB Occurrences 14, 15, and 18 are on BLM lands.													K			
<i>Eriogonum crosbyae</i>	Crosby's buckwheat	VASC	Polygonaceae			BLMS		W	G3	S3		No		S3 in NV. This plant is threatened by gold mining activity on the Nevada portion of the Surprise Field Office. 82% of this plants' total numbers are within the mining claim area. A few populations also occur in Oregon.														K		
<i>Eriogonum eremicola</i>	Wildrose Canyon buckwheat	VASC	Polygonaceae			BLMS	1B.3		G1	S1		No	13-Sep-12					S									K			
<i>Eriogonum hoffmannii</i> var. <i>hoffmannii</i>	Hoffmann's buckwheat	VASC	Polygonaceae			BLMS	1B.3		G3T2	S2		No	28-Apr-15	Panamint Mts.; Found in Surprise Canyon on BLM lands--see 2005 ADEIS.													K			
<i>Eriogonum kelloggii</i>	Red Mountain buckwheat	VASC	Polygonaceae		SE	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly a Federal candidate for listing. Removed from candidate list, Federal Register 29: 56029, September 18, 2014.		K														
<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Kern buckwheat	VASC	Polygonaceae			BLMS	1B.1		G4T1	S1		No	18-Apr-13				S										K			

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<i>Eriogonum mensicola</i>	Pinyon Mesa buckwheat	VASC	Polygonaceae			BLMS	1B.3		G2G3	S2		No	31-Mar-15	CNDDDB occurrences 6 and 8 on BLM, perhaps within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC (the occurrences straddle the boundary). Other occurrences on Death Valley NP, China Lake NWS.													K		
<i>Eriogonum microthecum</i> var. <i>panamintense</i>	Panamint Mountains buckwheat	VASC	Polygonaceae			BLMS	1B.3		G5T3	S3		No	28-Apr-15	CNDDDB occurrence number 7 is within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC. Other occurrences on BLM lands in the Ridgecrest and Bishop Field Offices.				K									K		
<i>Eriogonum microthecum</i> var. <i>schoolcraftii</i>	Schoolcraft's wild buckwheat	VASC	Polygonaceae			BLMS	1B.2	W	G5T3 in CA; G5T2 in NV	S3 (CA); S1 (NV)		No	28-Apr-15	Taxon described by: Reveal, J. L. 2004. New entities in <i>Eriogonum</i> (Polygonaceae: Eriogonoideae). <i>Phytologia</i> 86(3):121-159.					K									S	
<i>Eriogonum nervulosum</i>	Snow Mtn. buckwheat	VASC	Polygonaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																K
<i>Eriogonum nudum</i> var. <i>murinum</i>	mouse buckwheat	VASC	Polygonaceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15			K						K							
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenberry buckwheat	VASC	Polygonaceae	FE			1B.1		G5T1	S1		No	06-Aug-13	A draft Recovery Plan was issued in 1997 but as of 8/6/2013 was not final. Some of the recovery actions in the draft plan have been started and partially implemented.			K												
<i>Eriogonum prociduum</i>	prostrate buckwheat	VASC	Polygonaceae			BLMS	1B.2	W	G3	S3 (CA); S1 (NV)		No	28-Apr-15	Found in the Ash Valley RNA/ACEC.	K													K	
<i>Eriogonum temblorense</i>	Temblor buckwheat	VASC	Polygonaceae			BLMS	1B.2		G2	S2.2		No		Known only from eastern Monterey Co., eastern San Luis Obispo Co., and western Kern Co. Within the Bakersfield Field Office it occurs on shaly/barren soils in the Temblor Range and Elkhorn Plain. This habitat type appears to be very scattered and limited.		K													
<i>Eriogonum thornei</i>	Thorne's buckwheat	VASC	Polygonaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12	Formerly <i>E. ericifolium</i> var. <i>thornei</i> , now elevated to species.										K					

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<i>Eriogonum umbellatum</i> var. <i>ahartii</i>	Ahart's buckwheat	VASC	Polygonaceae			BLMS	1B.2		G5T2	S2		No	03-Oct-11	Currently shown in 5 locations close to BLM lands. Rarefind shows that locations are near West Branch of Feather River, De Sabla, South of Paradise Lake, and near Magalia Reservoir on scattered parcels.											S					
<i>Eriogonum umbellatum</i> var. <i>glaberrimum</i>	green buckwheat	VASC	Polygonaceae			BLMS	1B.3		G5T2?	S2		No	18-Apr-13		S													S		
<i>Eriogonum ursinum</i> var. <i>erubescens</i>	blushing wild buckwheat	VASC	Polygonaceae			BLMS	1B.3		G3G4T2	S2		No	28-Apr-15	CNDDDB maps very close to BLM lands, especially Occurrence 1.											S					
<i>Eriophyllum mohavense</i>	Barstow woolly-sunflower	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12				K										K			
<i>Erysimum ammophilum</i>	coast wallflower	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K								
<i>Erysimum concinnum</i>	bluff wallflower	VASC	Brassicaceae			BLMS	1B.2		G3	S3		No	26-Feb-15	Added to list as 1B.2 on 12/3/2012. Originally proposed to be added as 4.2, but final decision 1B.2 based on comments from field botanists. Substantial population on the north end of the King Range acc. Jennifer Wheeler. Biosystematic study of this plant and closely related congeners is currently underway.		K														
<i>Erysimum menziesii</i>	Menzies' wallflower	VASC	Brassicaceae	FE	SE		1B.1		G1	S1		No	28-Apr-15	Formerly <i>Erysimum menziesii</i> (Hook.) Wettst. subsp. <i>eurekaense</i> R. Price, but that combination, along with the two other subspecies that were formerly recognized by CNPS and CDFW, was never validly published. All three subspecies, including subsp. <i>eurekaense</i> , are now submerged into <i>E. menziesii</i> in the Jepson Manual II and by CNPS/CDFW per decision on 12-11-2012. The common name for the invalid combination, <i>E. m.</i> subsp. <i>eurekaense</i> , Humboldt Bay wallflower, has also been dropped in favor of Menzies' wallflower.		K														

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<i>Erythranthe calcicola</i>	limestone monkeyflower	VASC	Phrymaceae			BLMS	1B.3		G2	S2		No	25-Jun-13	This species was newly described in 2012 by Naomi Fraga and added to RPR 1B.3 on on 6/24/2013. There are three occurrences on BLM lands in the Ridgecrest Field Office, according to Naomi.															K	
<i>Erythranthe rhodopetra</i>	Red Rock Canyon monkeyflower	VASC	Phrymaceae			BLMS	1B.1		G1	S1		No	30-Oct-13	This species was newly described in 2012 by Naomi Fraga. The discussion in the CNPS Rare Plant Forum (http://cnps.org/forums/showthread.php?t=1792) states that there are 2 (and possibly 3) occurrences on BLM lands in CA in the El Paso Mts of the Ridgecrest FO. More recent occurrences are all in Red Rock SP. Added to CDFW/CNPS list as 1B.1 on Jul 8, 2013. As of 10/30/2013 not yet mapped in CNDDDB.																K
<i>Erythronium citrinum var. roderickii</i>	Scott Mtn. fawn lily	VASC	Liliaceae			BLMS	1B.3		G4T3	S3		No	15-Nov-10																S	
<i>Erythronium tuolumnense</i>	Tuolumne fawn-lily	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																	
<i>Eschscholzia minutiflora subsp. twisselmannii</i>	Red Rock poppy	VASC	Papaveraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15	El Paso Mts.															K	
<i>Eschscholzia rhombipetala</i>	diamond-petaled California poppy	VASC	Papaveraceae			BLMS	1B.1		G1	S1		No	18-Apr-13				S													
<i>Etriplex joaquinana</i>	San Joaquin spearscale	VASC	Chenopodiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Found by Craig Thomsen and Ellen Dean in Bear Creek Unit (Payne Ranch). Formerly Atriplex joaquinana A. Nelson.															K	

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<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	VASC	Euphorbiaceae			BLMS	1B.1		G1	S1		No	30-Jul-13	Newly described in 2012 (<i>Aliso</i> 30: 1-4). There are only four known occurrences. CNDDDB Occurrence 2 (Marble Mountains) and occurrences 3 and 4 (Bristol Mountains) are all on BLM lands in the Needles Field Office. Occurrence 4 is within the boundaries of a proposed wind farm. Occurrence 1, the type locality, is in the Orocopia Mountains (Palm Springs Field Office), where the nonspecific mapped 2/5 mile radius circle has both BLM and private lands within it. Added to the CNPS/CDFW lists on 1-17-2013.									K	S						
<i>Euphorbia ocellata subsp. rattanii</i>	Stony Creek spurge	VASC	Euphorbiaceae			BLMS	1B.2		G4T1T2	S1S2		No	13-Sep-12	Formerly <i>Chamaesyce ocellata</i> (Dur. & Hilg.) Millsp. subsp. <i>rattanii</i> (S. Watson) Koutnik.												K				
<i>Euphorbia platysperma</i>	flat-seeded spurge	VASC	Euphorbiaceae			BLMS	1B.2		G3	S1		No	28-Apr-15	Formerly <i>Chamaesyce platysperma</i> (Engelm.) Shinn. Until 8/6/2013 was considered "S" in Palm Springs, but a review of the CNDDDB reveals no occurrences close to BLM lands in that Field Office. Still considered "S" in El Centro and added as "S" (on 8/6/2013) to Barstow based on the mapped polygon for CNDDDB nonspecific Occurrence 3, which has BLM lands (as well as private lands) within it. Nonspecific Occurrence 4 in El Centro has BLM lands within the mapped 1-mile radius circle.			S			S										
<i>Fremontodendron decumbens</i>	Pine Hill flannelbush	VASC	Malvaceae	FE	SR		1B.2		G1	S1		Yes	13-Sep-12										K							
<i>Fremontodendron mexicanum</i>	Mexican flannelbush	VASC	Malvaceae	FE	SR		1B.1		G1	S1		No	13-Sep-12								K				K					
<i>Fritillaria falcata</i>	talus fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K								

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<i>Fritillaria gentneri</i>	Gentner's fritillaria	VASC	Liliaceae	FE			1B.1		G1	S1		Yes	13-Sep-12												K						
<i>Fritillaria ojaiensis</i>	Ojai fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12			S															
<i>Fritillaria pluriflora</i>	adobe-lily	VASC	Liliaceae			BLMS	1B.2		G3	S3		No	22-Nov-10	Documented in the Ukiah Field Office within the proposed right-of-way of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also occurs elsewhere in the Ukiah Field Office.											S					K	
<i>Fritillaria striata</i>	striped adobe-lily	VASC	Liliaceae		ST	BLMS	1B.1		G2	S2		No	13-Sep-12			S															
<i>Fritillaria viridea</i>	San Benito fritillary	VASC	Liliaceae			BLMS	1B.2		G2	S2		No	13-Sep-12									K									
<i>Galium angustifolium subsp. onycense</i>	Onyx peak bedstraw	VASC	Rubiaceae			BLMS	1B.3		G5T3	S3		No	28-Apr-15			K															
<i>Galium californicum subsp. primum</i>	Alvin Meadow bedstraw	VASC	Rubiaceae			BLMS	1B.2		G5T1Q	S1		No	13-Sep-12												S						
<i>Galium californicum subsp. sierrae</i>	El Dorado bedstraw	VASC	Rubiaceae	FE	SR		1B.2		G5T1	S1		Yes	13-Sep-12										K								
<i>Galium glabrescens subsp. modocense</i>	Modoc bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4T3	S3		No	18-Apr-13		S														K		
<i>Galium grande</i>	San Gabriel bedstraw	VASC	Rubiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15													S					
<i>Galium hardhamiae</i>	Hardham's bedstraw	VASC	Rubiaceae			BLMS	1B.3		G3	S3		No	28-Apr-15			K															
<i>Galium hilendiae subsp. kingstonense</i>	Kingston bedstraw	VASC	Rubiaceae			BLMS	1B.3		G4T2	S2		No	18-Apr-13				K						K								
<i>Galium serpicum subsp. scotticum</i>	Scott Mtn. bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4G5T2	S2.2		No													K						
<i>Galium serpicum subsp. warnerense</i>	Warner Mtns. bedstraw	VASC	Rubiaceae			BLMS	1B.2		G4G5T2	S2		No	18-Apr-13		S													S			
<i>Gentiana setigera</i>	Mendocino gentian	VASC	Gentianaceae			BLMS	1B.2		G2	S1		No				K															

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<i>Gilia capitata subsp. pacifica</i>	Pacific gilia	VASC	Polemoniaceae			BLMS	1B.2		G5T3T4	S2		No	17-Mar-15	To be suspected on the Stornetta Unit according to Jim Weigand (2/3/2015).															S	
<i>Gilia millefoliata</i>	dark-eyed gilia	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15			K														
<i>Gilia tenuiflora subsp. arenaria</i>	sand gilia	VASC	Polemoniaceae	FE	ST		1B.2		G3G4T2	S2		Yes										K								
<i>Glossopetalon pungens</i>	pungent glossopetalon	VASC	Crossosomataceae			BLMS	1B.2		G2G3	S1		No	18-Apr-13											K						
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	VASC	Plantaginaceae		SE	BLMS	1B.2		G2	S2		No		This is a vernal pool plant. Can be found in man-made reservoirs.	K		K			K		K				K				
<i>Grindelia fraxinipratensis</i>	Ash Meadows gum-plant	VASC	Asteraceae	FT			1B.2		G2	S1	CE	Yes	13-Sep-12					K												
<i>Grindelia hallii</i>	San Diego gumplant	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Although CNDDDB occurrence 13 is nonspecific, the record states that the species was found on BLM lands.								K								
<i>Gymnopilus punctifolius</i>	'blue-green gymnopilus'	FUNG	Cortinariaceae			BLMS			G3G4	S2?		No	16-Nov-10			K														
<i>Harmonia doris-nilesiae</i>	Niles's harmonia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	28-Apr-15	Formerly <i>Madia doris-nilesiae</i> T.W. Nelson & J.P. Nelson.												S				
<i>Harmonia hallii</i>	Hall's harmonia	VASC	Asteraceae			BLMS	1B.2		G2	S2?		No	13-Sep-12	Formerly <i>Madia hallii</i> Keck. Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also elsewhere in the Ukiah Field Office.																K
<i>Harmonia stebbinsii</i>	Stebbins's harmonia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Madia stebbinsii</i> T.W. Nelson & J.P. Nelson.												K				
<i>Helianthella castanea</i>	Diablo rock-rose	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12									S								

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<i>Helianthus niveus subsp. tephrodes</i>	Algodones Dunes sunflower	VASC	Asteraceae		SE	BLMS	1B.2		G4T2T3	S2		No	28-Apr-15								K									
<i>Helianthus winteri</i>	Winter's sunflower	VASC	Asteraceae			BLMS	1B.2		G1G2	S1S2		No	20-Jan-15	First described by Stebbins, J.C., C.J. Winchell, and J.V.H. Constable. 2013. <i>Helianthus winteri</i> (Asteraceae), a new perennial species from the southern Sierra Nevada foothills, California. <i>Aliso</i> 31: 19-24. Added to CDFW/CNPS list on 10/15/2014. Occurrence Number 2 (80m accuracy) is within 200m of isolated BLM 40-acre parcel centered at approximately -119.253672 36.592978 Decimal Degrees (NAD 83, UTM Zone 11N)		K														
<i>Hesperivax sparsiflora subsp. brevifolia</i>	short-leaved evax	VASC	Asteraceae			BLMS	1B.2		G4T2T3	S2S3		No	17-Mar-15	On BLM at Mattole Beach (in great numbers acc. Jennifer Wheeler) and at Samoa.		K													K	
<i>Hesperidanthus jaegeri</i>	Jaeger's hesperidanthus	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	31-Mar-15	Formerly <i>Caulostramina jaegeri</i> . CNDDDB Occurrence number 4 is definitely on BLM lands within the boundary of the new Cerro Gordo/Congolmerate Mesa ACEC. Occurrence number 2 is likely on BLM lands with the ACEC. Occurrence number 6, Keynot Peak near head of Keynot Canyon is on BLM lands but not clear whether in the Bishop or Ridgecrest Field Office (occurrence as mapped straddles the border between the two field offices).				S									K			
<i>Hesperidanthus jaegeri</i>	Jaeger's hesperidanthus	VASC	Brassicaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Formerly <i>Caulostramina jaegeri</i> (Roll.) Roll.					S								K			

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<i>Hesperocyparis forbesii</i>	Tecate cypress	VASC	Cupressaceae			BLMS	1B.1		G2	S2		No	03-Jun-13	Formerly <i>Cupressus forbesii</i> . The taxon was then moved to <i>Callitropsis forbesii</i> by Little (2006) Syst. Bot. 31(3):461-480. The Jepson Manual second edition uses <i>Hesperocyparis forbesii</i> in accordance with Adams et al. 2009. A new genus, <i>Hesperocyparis</i> , for the cypresses of the western hemisphere (Cupressaceae). Phytologia 91: 160-185.																K	
<i>Hesperocyparis nevadensis</i>	Piute cypress	VASC	Cupressaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Cupressus nevadensis</i> . The taxon was then moved to <i>Callitropsis nevadensis</i> by Little (2006) Syst. Bot. 31(3):461-480. The Jepson Manual second edition uses <i>Hesperocyparis nevadensis</i> in accordance with Adams et al. 2009. A new genus, <i>Hesperocyparis</i> , for the cypresses of the western hemisphere (Cupressaceae). Phytologia 91: 160-185.			K														
<i>Hesperolinon adenophyllum</i>	glandular western flax	VASC	Linaceae			BLMS	1B.2		G3	S3		No	28-Apr-15																	K	
<i>Hesperolinon breweri</i>	Brewer's dwarf flax	VASC	Linaceae			BLMS	1B.2		G2	S2		No	13-Sep-12																	S	
<i>Hesperolinon didymocarpum</i>	Lake County dwarf flax	VASC	Linaceae		SE	BLMS	1B.2		G1	S1		No	13-Sep-12																	S	
<i>Hesperolinon drymarioides</i>	drymaria-like western flax	VASC	Linaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Documented in the Ukiah Field Office within the proposed right-of-way, as well as within the area of potential effect, of the AltaGas/Greenwing Energy proposed Walker Ridge wind farm (Volmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010). Also occurs elsewhere in the Ukiah Field Office.																	K

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<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	VASC	Linaceae			BLMS	1B.2		G2Q	S2		No	28-Mar-13	CNDDDB Occurrence 53 is currently mapped by CNDDDB as <i>H. tehamense</i> but CNPS/ CDFW now consider that occurrence to be <i>H. sharsmithiae</i> (http://cnps.org/forums/showthread.php?t=1723&highlight=Hesperolinon+sharsmithiae). <i>H. sharsmithiae</i> was added to the CNPS and CDFW lists on 12-14-2012.															K	
<i>Hesperolinon tehamense</i>	Tehama County western flax	VASC	Linaceae			BLMS	1B.3		G2	S2		No	28-Mar-13	Added K for Ukiah on 3-28-2013 (was previously K for Redding only). CNDDDB occurrences 18, 20, and 40 are all on BLM lands in the Ukiah FO. CNDDDB Occurrence 53 is also currently mapped on BLM lands, but this occurrence is now considered by CNPS/CDFW to represent <i>H. sharsmithiae</i> (http://cnps.org/forums/showthread.php?t=1723&highlight=Hesperolinon+sharsmithiae).														K	K	
<i>Heterodermia leucomelos</i>	ciliate strap-lichen	LICH	Physciaceae			BLMS			G4	None		No	16-Nov-10			K														
<i>Heterotheca shevockii</i>	Shevock's golden-aster	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	03-Jun-13				S													
<i>Heuchera brevistaminea</i>	Laguna Mountains alumroot	VASC	Saxifragaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 5 is located on BLM lands.											K					
<i>Horkelia bolanderi</i>	Bolander's horkelia	VASC	Rosaceae			BLMS	1B.2		G1	S1		No	03-Jun-13	Very non-specific occurrence, CNDDDB occurrence 9, encompasses BLM lands. Vollmar (Vollmar Consulting, 2010 Sensitive Botanical Resources Survey Report, Walker Ridge Project Site, Lake and Colusa Counties, California, October 2010) reported that suitable habitat is present on BLM lands.																S
<i>Horkelia hendersonii</i>	Henderson's horkelia	VASC	Rosaceae			BLMS	1B.1		G1G2	S1		No	28-Apr-15													S				
<i>Horkelia parryi</i>	Parry's horkelia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15																	

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<i>Horkelia tenuiloba</i>	thin-lobed horkelia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Suspected to occur on BLM lands on and near Willis Ridge, acc. Jennifer Wheeler.		S														
<i>Hosackia crassifolia var. otayensis</i>	Otay Mountain lotus	VASC	Fabaceae			BLMS	1B.1		G5T1	S1		No	06-Aug-13	CNDDDB occurrences 1, 2, and 3 are all on BLM lands on Otay Mountain.											K					
<i>Hulsea californica</i>	San Diego sunflower	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	28-Apr-15	CNDDDB occurrences 2 and 24 are located on BLM lands in the El Centro Field Office portion of San Diego County. Occurrences 10, 14, 22, 23, 26 are non-specific CNDDDB occurrences that are located next to BLM lands in the El Centro Field Office part of San Diego County. Nonspecific Occurrence 29 in the Palm Springs Field Office portion of San Diego County has some BLM lands within the mapped 1-mile radius circle.							K							S		
<i>Hydropus marginellus</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G3	S1S2		No	16-Nov-10			K														
<i>Iris hartwegii subsp. columbiana</i>	Tuolumne iris	VASC	Iridaceae			BLMS	1B.2		G4T1	S2		No	28-Apr-15																	
<i>Iris munzii</i>	Munz's iris	VASC	Iridaceae			BLMS	1B.3		G2	S2		No	28-Apr-15				S													
<i>Ivesia aperta var. aperta</i>	Sierra Valley ivesia	VASC	Rosaceae			BLMS	1B.2	T	G2T2	S2 (CA); S1 (NV)		No	28-Apr-15							K										
<i>Ivesia jaegeri</i>	Jaeger's ivesia	VASC	Rosaceae			BLMS	1B.3		G2G3	S1		No	03-Jun-13																	
<i>Ivesia kingii var. kingii</i>	alkali ivesia	VASC	Rosaceae			BLMS	2B.2		G4T3Q	S2		No	19-Aug-09	Moved from CNPS 1B.2 to 2.2 on 11/23/08 because more common in NV.					K											
<i>Ivesia longibracteata</i>	Castle Crag ivesia	VASC	Rosaceae			BLMS	1B.3		G1	S1		No	03-Jun-13															S		
<i>Ivesia paniculata</i>	Ash Creek ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Found in the Ash Valley RNA/ACEC.	K															
<i>Ivesia patellifera</i>	Kingston Mtns. ivesia	VASC	Rosaceae			BLMS	1B.3		G1	S2		No	03-Jun-13					K												
<i>Ivesia pickeringii</i>	Pickering's ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2.2		No																	S	

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<i>Ivesia rhypara var. rhypara</i>	grimy ivesia	VASC	Rosaceae			BLMS		W	G2T2	S2 (NV)		No	28-Apr-15	This plant has 5 small occurrences in the Surprise Field Office within one mile of each other in NV. Listed as Endangered by the State of Oregon.															K	
<i>Ivesia sericoleuca</i>	Plumas ivesia	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15							S										
<i>Ivesia webberi</i>	Webber's ivesia	VASC	Rosaceae	FT			1B.1	T	G1	S2 (CA); S1 (NV)	CE	No	28-Apr-15	Listed as Threatened by the U.S. Fish and Wildlife Service on June 3, 2014 (79 Federal Register 106: 31878-31883). Critical Habitat designated on June 3, 2014 (79 Federal Register 106: 32126-32155). On BLM lands in Sierra Valley. Specific occurrence 1 as mapped by CNDDB does not include BLM lands within it, but 50 plants were found on BLM lands in the vicinity in 1992.						K										
<i>Juncus leiospermus var. leiospermus</i>	Red Bluff dwarf rush	VASC	Juncaceae			BLMS	1B.1		G2T2	S2		No	28-Apr-15															K		
<i>Kaernefeltia californica</i>	seaside thornbush	LICH	Parmeliaceae			BLMS			G3	None		No	16-Nov-10			K														
<i>Lagophylla diabolensis</i>	Diablo Range hare-leaf	VASC	Asteraceae			BLMS	1B.2		G2G3	S2S3		No	20-Jan-15	Recently described by Baldwin, B.G. 2013. Lagophylla diabolensis (Compositae-Madiinae), a new hare-leaf from the southern Diablo Range, California. Madroño 60(3): 249-254. Final decision to add to list 1B.2 made on 1/17/2014. At least 5 occurrences on BLM lands in Hollister FO.																
<i>Lasthenia californica subsp. macrantha</i>	perennial goldfields	VASC	Asteraceae			BLMS	1B.2		G3T2	S2		No	17-Mar-15	Known from the Stornetta Unit, per the following collections: JEPS21849, 1958, and CAS514082, 1967.																K
<i>Lasthenia conjugens</i>	Contra Costa goldfields	VASC	Asteraceae	FE			1B.1		G1	S1		Yes	13-Sep-12	Fort Ord.																
<i>Lasthenia glabrata subsp. coulteri</i>	Coulter's goldfields	VASC	Asteraceae			BLMS	1B.1		G4T2	S2		No	28-Apr-15				K													
<i>Layia carnosa</i>	beach layia	VASC	Asteraceae	FE	SE		1B.1		G2	S2		Yes	13-Sep-12			K														

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<i>Layia discoidea</i>	rayless tidytips	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	28-Apr-15									K								
<i>Layia heterotricha</i>	pale-yellow layia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	13-Sep-12			K						K								
<i>Layia jonesii</i>	Jones' layia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15			S														
<i>Layia leucopappa</i>	Comanche Point layia	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	03-Jun-13			S														
<i>Layia munzii</i>	Munz's tidy-tips	VASC	Asteraceae			BLMS	1B.2		G1	S1		No	03-Jun-13			K														
<i>Layia septentrionalis</i>	Colusa layia	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15												S			S		
<i>Legenere limosa</i>	legenere	VASC	Campanulaceae			BLMS	1B.1		G2	S2		No	28-Apr-15												K					
<i>Lepechinia ganderi</i>	Gander's pitcher-sage	VASC	Lamiaceae			BLMS	1B.3		G3?	S3		No	28-Apr-15											K						
<i>Lepidium flavum var. felipense</i>	Borrego Valley pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G5T1	S1		No	06-Aug-13	This var. is not recognized by the Jepson Manual 2nd edition or by Flora North America. Changed from "S" in Palm Springs to "S" in El Centro on 8/6/2013 because CNDDDB Occurrence 1, which has some BLM lands within the nonspecific 1-mile radius circle, is in the El Centro Field Office, not the Palm Springs Field Office. No occurrences are currently reported within the boundaries of the Palm Springs Field Office.							S									
<i>Lepidium jaredii subsp. album</i>	Panoche pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	03-Jun-13	This subsp. not recognized by Jepson Manual 1st or 2nd editions or by Flora North America.																
<i>Lepidium jaredii subsp. jaredii</i>	Jared's pepper-grass	VASC	Brassicaceae			BLMS	1B.2		G2T1T2	S1S2		No	28-Apr-15	Subspecies of <i>L. jaredii</i> are not recognized in Jepson Manual 1st or 2nd editions or by Flora North America.			K													
<i>Leptosiphon nuttallii subsp. howellii</i>	Mt. Tedoc linanthus	VASC	Polemoniaceae			BLMS	1B.3		G5T2	S2		No	13-Sep-12	Formerly <i>Linanthus nuttallii</i> Mlkn. Subsp. <i>howellii</i> Nelson & Patterson.											S					
<i>Leptosyne hamiltonii</i>	Mt. Hamilton coreopsis	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Coreopsis hamiltonii</i> (Elmer) H.K. Sharsm.								K								
<i>Leucogaster citrinus</i>	'yellow false truffle'	FUNG	Leucogastraceae			BLMS			G3G4	S1S2		No	28-Apr-15			K														
<i>Lewisia cantelovii</i>	Cantelow's lewisia	VASC	Portulacaceae			BLMS	1B.2		G3	S3		No	13-Sep-12										K		S					

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<i>Loeflingia squarrosa var. artemisiarum</i>	Sagebrush loeflingia	VASC	Caryophyllaceae			BLMS	2B.2		G5T2T3	S2		No	28-Apr-15	Known to CA from only Lassen County (6 occ), Inyo County (5 occ), and two occurrences from Kern and Los Angeles counties. Three occurrences are on BLM lands within the Eagle Lake Field Office, 3 on private, and disjunct. Threatened by livestock trampling.					K	K									S	
<i>Lomatium congdonii</i>	Congdon's lomatium	VASC	Apiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	On BLM lands in the Red Hills, Tuolumne County.									K							
<i>Lomatium roseanum</i>	adobe lomatium	VASC	Apiaceae			BLMS	1B.2	W	G2G3	S2 (CA); S2 (NV)		No	03-Jun-13	Mike Dolan found ca. 500 plants on Likely Tablelands, in low sage infested with medusahead. Lat: 41.271339 degrees N, Long: -120.493347 degrees W; above and to south of Romero Creek, 4,640', clay loam soil.	K														S	
<i>Lomatium shevockii</i>	Owens Peak lomatium	VASC	Apiaceae			BLMS	1B.3		G2	S2		No	03-Jun-13				K												K	
<i>Lupinus citrinus var. citrinus</i>	orange lupine	VASC	Fabaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15				S													
<i>Lupinus citrinus var. deflexus</i>	Mariposa lupine	VASC	Fabaceae		ST	BLMS	1B.2		G2T1	S1		No	13-Sep-12	Previously shown as S in the Hollister Field Office, a holdover from the time that Hollister managed BLM lands in Mariposa County. Removed as S from Hollister and put as S in the Mother Lode Field Office. There are occurrences within 550 m from isolated BLM lands in T6S,R 19E, S6, MDM.																S
<i>Lupinus duranii</i>	Mono Lake lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15						K											
<i>Lupinus excubitus var. medius</i>	Mountain Springs bush lupine	VASC	Fabaceae			BLMS	1B.3		G4T2T3	S2		No																		K
<i>Lupinus ludovicianus</i>	San Luis Obispo County lupine	VASC	Fabaceae			BLMS	1B.2		G1	S1		No	28-Apr-15			S														

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<i>Lupinus magnificus var. hesperius</i>	McGee Meadows lupine	VASC	Fabaceae			BLMS	1B.3		G3T2Q	S2		No	28-Apr-15	Jepson Manual 2nd edition, equivocal about whether to recognize this variety, states: "If recognized taxonomically, straight-keeled pls from SNE assignable to <i>Lupinus magnificus var. hesperius</i> (A. Heller) C.P. Sm., McGee Meadows lupine." After review, CNPS and CNDDDB kept as 1B.3 by decision dated Feb. 8, 2012. Occurs on Mt. Tom.					K										
<i>Lupinus magnificus var. magnificus</i>	Panamint Mtns. lupine	VASC	Fabaceae			BLMS	1B.2		G3T2Q	S2		No	03-Jun-13					S									K		
<i>Lupinus sericatus</i>	Cobb Mountain lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Walker Ridge/Bear Creek, Sulphur Creek sub-watershed (Source: Jim Weigand).															K
<i>Lupinus spectabilis</i>	shaggyhair lupine	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	28-Apr-15										K						
<i>Lupinus uncialis</i>	lilliput lupine	VASC	Fabaceae			BLMS	2B.2		G4	S2		No	28-Apr-15	Five occurrences known in Alturas Field Office. Twenty total occurrences in CA, most on private lands, and some converted to homesites. Disjunct in CA. CA occurrences important for maintaining genetic viability of the species. Threats include grazing.	K														
<i>Madia radiata</i>	showy golden madia	VASC	Asteraceae			BLMS	1B.1		G2	S2		No				S						K							
<i>Malacothamnus aboriginum</i>	Indian Valley bush mallow	VASC	Malvaceae			BLMS	1B.2		G2	S2		No	13-Sep-12									K							
<i>Malacothamnus hallii</i>	Hall's bush-mallow	VASC	Malvaceae			BLMS	1B.2		G2Q	S2		No	18-Sep-12	CNDDDB Occurrence 38, population found on BLM lands on 6/2011.														K	
<i>Malacothamnus palmeri var. involucratus</i>	Carmel Valley bush-mallow	VASC	Malvaceae			BLMS	1B.2		G3T3Q	S3		No	28-Apr-15									K							
<i>Malacothamnus palmeri var. lucianus</i>	Arroyo Seco bush-mallow	VASC	Malvaceae			BLMS	1B.2		G3T1Q	S1		No	28-Apr-15									K							
<i>Malacothrix saxatilis var. arachnoidea</i>	Carmel Valley malacothrix	VASC	Asteraceae			BLMS	1B.2		G5T2	S2		No	28-Apr-15									S							

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<i>Menodora spinescens var. mohavensis</i>	Mojave menodora	VASC	Oleaceae			BLMS	1B.2		G4T2T3	S2S3		No	18-Sep-12	CNDDDB mapped occurrences on BLM lands. One, Occurrence 10, on BLM lands slated for renewable energy.				K											
<i>Mentzelia inyoensis</i>	Inyo blazing star	VASC	Loasaceae			BLMS	1B.3	W	G3	S3		No	28-Apr-15	According to Anne Halford we have occurrences in Fish Slough and Travertine Hot Springs, and there's a very large population on the Inyo National Forest near Black Point (Mono Lake).				K											
<i>Mentzelia polita</i>	polished blazing star	VASC	Loasaceae			BLMS	1B.2		G2	S2		No	03-Jun-13	CNDDDB maps one nonspecific occurrence on BLM land just north of the Eastern Mojave National Preserve on the Clark Mountain quad. CNPS Rare Plant Treasure Hunt found a new occurrence (CNDDDB Occurrence No. 3) on the Ivanpah Lake quad.									K						
<i>Mentzelia tridentata</i>	creamy blazing star	VASC	Loasaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	E. of Cuddeback Lake.												S			
<i>Microseris paludosa</i>	marsh microseris	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	17-Mar-15	Known from the Stornetta Unit, per the following collection: CAS514442, 1968.															K
<i>Mimulus evanescens</i>	ephemeral monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G3	S2		No	28-Apr-15		K				S								S		
<i>Mimulus filicaulis</i>	slender-stemmed monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	28-Apr-15									K							
<i>Mimulus gracilipes</i>	slender-stalked monkerflower	VASC	Phrymaceae			BLMS	1B.2		G2G3	S2S3		No	16-Nov-10				S												
<i>Mimulus mohavensis</i>	Mojave monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	13-Sep-12				K												
<i>Mimulus norrisii</i>	Kaweah monkeyflower	VASC	Phrymaceae			BLMS	1B.3		G2	S2		No	28-Apr-15			K													
<i>Mimulus pictus</i>	Calico monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	28-Apr-15			K													
<i>Mimulus pulchellus</i>	pansy monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2G3	S2S3		No	13-Sep-12									K							
<i>Mimulus shevockii</i>	Kelso Creek monkeyflower	VASC	Phrymaceae			BLMS	1B.2		G2	S2		No	13-Sep-12			K											K		
<i>Minuartia howellii</i>	Howell's sandwort	VASC	Caryophyllaceae			BLMS	1B.3		G4	S2		No	13-Sep-12												S				
<i>Minuartia stolonifera</i>	Scott Mtn. sandwort	VASC	Caryophyllaceae			BLMS	1B.3		G2	S2		No	03-Jun-13												S				

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<i>Monardella beneolens</i>	sweet-smelling monardella	VASC	Lamiaceae			BLMS	1B.3		G1	S1		No	03-Jun-13	S. Sierra Nevada.													K				
<i>Monardella boydii</i>	Boyd's monardella	VASC	Lamiaceae			BLMS	1B.2		G2Q	S2		No	13-Sep-12	Specific CNDDDB occurrences on BLM lands in Rodman Mtn Wilderness and Ord Mtn.			K														
<i>Monardella eremicola</i>	Clark Mountain monardella	VASC	Lamiaceae			BLMS	1B.3		G2G3Q	S2S3		No	18-Sep-12	This species was added as California Rare Plant Rank 1B.3 on 12-16-2011. The CNDDDB maps three occurrences on BLM lands in the Kingston Mountains, all of which list BLM as the landowner.									K								
<i>Monardella hypoleuca subsp. lanata</i>	felt-leaved monardella	VASC	Lamiaceae			BLMS	1B.2		G4T3	S3		No	28-Apr-15	CNDDDB Occurrence 2 is on BLM lands on Otay Mountain.										K							
<i>Monardella linoides subsp. oblonga</i>	Tehachapi monardella	VASC	Lamiaceae			BLMS	1B.3		G5T2	S2		No	28-Apr-15	CNDDDB maps specific occurrences on BLM in the Tehachapi Mountains.												K					
<i>Monardella nana subsp. leptosiphon</i>	San Felipe monardella	VASC	Lamiaceae			BLMS	1B.2		G4G5T2 Q	S2		No	03-Jun-13	Kevin Doran of the Palm Springs Field Office received a comment from the BLM Washington Office inquiring why the draft South Coast RMP did not list this as a SS plant. Review of RareFind information on 1-13-2011 shows that the plant is not very close to public lands in Palm Springs (it mostly occurs on higher elevation Forest Service lands), but that Occurrence 12 is close to public lands in El Centro (Banner Canyon area). CNPS and CNDDDB originally considered dropping the species from its lists because The Jepson Manual, Second Edition, does not recognize any of the subspecies of <i>M. nana</i> . However, following a review on the CNPS Forum, the decision was made on 9-4-2012 to retain the taxon as a California Rare Plant Rank 1B.2 plant.									S								
<i>Monardella robisonii</i>	Robison monardella	VASC	Lamiaceae			BLMS	1B.3		G3	S3		No	13-Sep-12				K						K	S							

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH
<i>Monardella sinuata subsp. nigrescens</i>	northern curly-leaved monardella	VASC	Lamiaceae			BLMS	1B.2		G3T2	S2		No	26-Jan-15	Described by Elvin, M.A. and A.C. Sanders. 2009. Nomenclatural changes for Monardella (Lamiaceae) in California. Novon 19(3): 315-345. Added to CDFW/CNPS list as 1B.2 on 12-31-2013. At Fort Ord. Mapped mostly on Army lands but certainly to be expected on BLM (and the Army lands may be transferred to BLM in the future).								S							

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<i>Monardella undulata</i> <i>subsp. undulata</i>	San Luis Obispo monardella	VASC	Lamiaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>M. frutescens</i> (Hoov.) Jokerst. Occurs on BLM lands in the Point Sal ACEC (Occurrence 31 in the CNDDDB). See Elvin, M. A. and A. C. Sanders. 2009. Nomenclatural changes for <i>Monardella</i> (Lamiaceae) in California. Novon 19:315-343.			K													
<i>Monardella venosa</i>	veiny monardella	VASC	Lamiaceae			BLMS	1B.1		G1	S1		No	03-Jun-13	Formerly <i>M. douglasii</i> Benth. var. <i>venosa</i> (Torr.) Jeps.											S					
<i>Monolopia congdonii</i>	San Joaquin woolly threads	VASC	Asteraceae	FE			1B.2		G2	S3		Yes	28-Apr-15	Formerly <i>Lembertia congdonii</i> (A. Gray) Greene.			K					K								
<i>Mycena quinaultensis</i>	'little brown mushroom'	FUNG	Tricholomataceae			BLMS			G2	S3		No	28-Apr-15			K														
<i>Navarretia leucocephala</i> <i>subsp. bakeri</i>	Baker's navarretia	VASC	Polemoniaceae			BLMS	1B.1		G4T2	S2		No	13-Sep-12												S					
<i>Navarretia nigelliformis</i> <i>subsp. radians</i>	shining navarretia	VASC	Polemoniaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12	Mason collection along Clear Creek Rd. Collection by Michael Denslow, Vern Yadon, and Julie Anne Delgado from a north fork of Cantua Creek; coordinates at Consortium of CA Herbaria are on BLM lands.								K								
<i>Navarretia setiloba</i>	Piute Mountains navarretia	VASC	Polemoniaceae			BLMS	1B.1		G2	S2		No	03-Jun-13				K													
<i>Nemacladus twisselmannii</i>	Twisselmann's nemacladus	VASC	Campanulaceae		SR	BLMS	1B.2		G1	S1		No	03-Jun-13				S													
<i>Neviusia cliftonii</i>	Shasta snow-wreath	VASC	Rosaceae			BLMS	1B.2		G2	S2		No	28-Apr-15												S					
<i>Nitrophila mohavensis</i>	Amargosa niterwort	VASC	Amaranthaceae	FE	SE		1B.1		G1	S1	CE	Yes	13-Sep-12	Formerly included in the family Chenopodiaceae but now considered by the Jepson Manual, 2nd edition, to be a member of the family Amaranthaceae.			K													
<i>Nolina interrata</i>	Dehesa nolina, bear grass	VASC	Ruscaceae		SE	BLMS	1B.1		G2	S2		No	13-Sep-12											S						
<i>Oenothera wolfii</i>	Wolf's evening-primrose	VASC	Onagraceae			BLMS	1B.1		G1	S1		No	03-Jun-13			S														

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<i>Opuntia basilaris var. brachyclada</i>	short-joint beavertail	VASC	Cactaceae			BLMS	1B.2		G5T3	S3		No	06-Aug-13	Until March 8, 2004, this var. had been considered K in both Needles and Barstow. But the Jepson Manual does not consider this a desert species, and a report by Pamela MacKay calls into question whether it ever occurred in the eastern Mojave. The draft BLM West Mojave Plan states that it only occurs on private lands in the WEMO planning area. It was therefore been changed to "S" in both Needles and Barstow. The CNPS Rare Plant Treasure Hunt documented an occurrence about 1 mile north of Cajon Pass on BLM land in 2010. The taxon has therefore been moved back to "K" for Barstow. On 8/6/2013 the taxon was added as "S" to the list for Palm Springs based on the fact that CNDDDB nonspecific Occurrence 107 has some BLM lands within the mapped 4/5 mile radius circle.			K								S	S					
<i>Opuntia basilaris var. treleasei</i>	Bakersfield cactus	VASC	Cactaceae	FE	SE		1B.1		G5T1	S1		No	27-Jun-13	The Fish and Wildlife Service uses the name <i>O. treleasei</i> J.M. Coult., but both Jepson Manual 1st and 2nd editions use the nomenclature shown here. Occurs on split estate (private surface, BLM subsurface) in the Bakersfield Field Office. CNDDDB occurrences 51 and 54 are very close to BLM lands in the Ridgecrest Field Office.			S											S			
<i>Orcuttia californica</i>	California orcutt grass	VASC	Poaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12																S		
<i>Orcuttia inaequalis</i>	San Joaquin Valley orcutt grass	VASC	Poaceae	FT	SE		1B.1		G1	S1		Yes	11-Mar-13	This was formerly designated as K from the Hollister Field Office, but this was a holdover from the time that Hollister managed a part of what is now managed by the Bakersfield FO.			K														

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<i>Orcuttia pilosa</i>	hairy orcutt grass	VASC	Poaceae	FE	SE		1B.1		G1	S1		Yes	13-Sep-12												S				
<i>Orcuttia tenuis</i>	slender orcutt grass	VASC	Poaceae	FT	SE		1B.1		G2	S2		Yes	13-Sep-12	This is a vernal pool plant. Only one known population of this plant occurs in the Alturas Field Office.	K										K				
<i>Oreostemma elatum</i>	tall alpine aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15						S										
<i>Orthocarpus pachystachyus</i>	Shasta orthocarpus	VASC	Orobanchaceae			BLMS	1B.1		G1	S1		No	16-Nov-10	Previously thought to be extinct.											S				
<i>Orthodontium gracile</i>	slender thread moss	BRYO	Bryaceae			BLMS			G5	S2S3		No	28-Apr-15		S														
<i>Packera eurycephala var. lewisrosei</i>	cut-leaved ragwort	VASC	Asteraceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Formerly <i>Senecio eurycephalus</i> Torrey & A. Gray var. <i>lewisrosei</i> (J.T. Howell) T.M. Barkley.											K				
<i>Packera ganderi</i>	Gander's butterweed	VASC	Asteraceae		SR	BLMS	1B.2		G2	S2		No	28-Apr-15	Formerly <i>Senecio ganderi</i> T.M. Barkley & R.M. Beauch. Known on Potrero Mt. (Potrero Peak in spring 2007).											K				
<i>Packera layneae</i>	Layne's butterweed	VASC	Asteraceae	FT	SR		1B.2		G2	S2		No	13-Sep-12	Formerly <i>Senecio layneae</i> Greene.									K		S				
<i>Palafoxia arida var. gigantea</i>	giant Spanish needle	VASC	Asteraceae			BLMS	1B.3		G5T3	S2		No	13-Sep-12							K									
<i>Panicum acuminatum var. thermale</i>	Geyser's panicum	VASC	Poaceae		SE	BLMS	1B.2		G5T2Q	S2		No	28-Mar-13	Formerly <i>Dichanthelium lanuginosum</i> (Ell.) Gould var. <i>thermale</i> (Boland.) Spellenberg. Rare Plant Rank changed from 1B.1 to 1B.2 by CNPS/CDFW on 9-12-2012.															S
<i>Pannaria rubiginosa</i>	petaled mouse	LICH	Pannariaceae			BLMS			G3G5	S1		No	28-Apr-15		K														
<i>Paronychia ahartii</i>	Ahart's paronychia	VASC	Carophyllaceae			BLMS	1B.1		G2	S2		No	13-Sep-12												K				

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<i>Pedicularis centranthera</i>	dwarf lousewort	VASC	Orobanchaceae			BLMS	2B.3		G4	S2		No	28-Apr-15	Only five known occurrences form CA, all from Secret Valley in Lassen Co, on BLM lands managed by the Eagle Lake Field Office. These occurrences are rather disjunct from Harney and Lake counties in OR and primarily the eastern half of NV.						K										
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	VASC	Fabaceae			BLMS	1B.2		G3	S2		No	13-Sep-12	Reranked from California Rare Plant Rank 4.3 to 1B.2 on 6-29-2011. CNDDDB Occurrence 22 occurs on BLM lands in the Needles Field Office near Kingston Wash. Several other occurrences are either on or near BLM lands in the Barstow Field Office.				K						K						
<i>Penstemon albomarginatus</i>	white-margined beardtongue	VASC	Plantaginaceae			BLMS	1B.1		G2	S1		No	16-Nov-10					K						K						
<i>Penstemon bicolor subsp. roseus</i>	rosy two-toned beardtongue	VASC	Plantaginaceae			BLMS	1B.1		G3T3Q	S1		No	13-Sep-12	On BLM lands near Castle Mt. Mine and Hart Mt. Moved from CNPS List 2.2 to List 1B.1 on 12/8/09.										K						
<i>Penstemon filiformis</i>	thread-leaved beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G3	S3		No	16-Nov-10													S				
<i>Penstemon fruticiformis var. amargosae</i>	Death Valley beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G4T3	S2		No	28-Apr-15					K						K						
<i>Penstemon janishiae</i>	Janish's beardtongue	VASC	Plantaginaceae			BLMS	2B.2		G4	S1		No	28-Apr-15	Status of populations unknown; some have been extirpated. Threats are logging and home site development. Rare in CA, OR, and ID. CNDDDB Occurrence 8 is mapped specifically on BLM lands. Occurrence 9 is nonspecific but entire mapped polygon on BLM. Changed from S to K on 8-19-09.	K															
<i>Penstemon personatus</i>	closed-throated beardtongue	VASC	Plantaginaceae			BLMS	1B.2		G2	S2		No	28-Apr-15													S				
<i>Penstemon stephensii</i>	Stephens' beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G2	S2		No	13-Sep-12					K						K						
<i>Penstemon sudans</i>	Susanville beardtongue	VASC	Plantaginaceae			BLMS	1B.3		G3	S3		No	16-Nov-10							K										

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<i>Pentachaeta exilis subsp. aeolica</i>	slender pentachaeta	VASC	Asteraceae			BLMS	1B.2		G5T1	S1		No	13-Sep-12									K							
<i>Perityle inyoensis</i>	Inyo rock daisy	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Occurrences 1 and 8 are entirely within the boundary of the new Cerro Gordo/Conglomerate Mesa ACEC. Occurrence 5 is partially within the ACEC, with the remainder on BLM land outside it.				S									K		
<i>Perityle villosa</i>	Hanaupah rock daisy	VASC	Asteraceae			BLMS	1B.3		G2	S2		No	03-Jun-13	Inyo Mts.													K		
<i>Petalonyx thurberi subsp. gilmanii</i>	Death Valley sandpaper-plant	VASC	Loasaceae			BLMS	1B.3		G5T2	S2		No					K										K		
<i>Phacelia cookei</i>	Cooke's phacelia	VASC	Boraginaceae			BLMS	1B.1		G1	S1		No	16-Nov-10														S		
<i>Phacelia greenei</i>	Scott Valley phacelia	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	16-Nov-10														K		
<i>Phacelia inundata</i>	playa phacelia	VASC	Boraginaceae			BLMS	1B.3	W	G2	S2 (CA); S2? (NV)		No	28-Apr-15		S				K									S	
<i>Phacelia inyoensis</i>	Inyo phacelia	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Fish Slough and Alabama Hills.				K											
<i>Phacelia leonis</i>	Siskiyou phacelia	VASC	Boraginaceae			BLMS	1B.3		G3	S3		No	28-Apr-15														S		
<i>Phacelia monoensis</i>	Mono County phacelia	VASC	Boraginaceae			BLMS	1B.1	T	G3	S2		No	28-Apr-15					K											
<i>Phacelia mustelina</i>	Death Valley round-leaved phacelia	VASC	Boraginaceae			BLMS	1B.3		G2	S2		No	03-Jun-13	Saline Valley.													K		
<i>Phacelia nashiana</i>	Charlotte's phacelia	VASC	Boraginaceae			BLMS	1B.2		G3	S3		No	13-Sep-12				K										K		
<i>Phacelia novemmillensis</i>	Nine Mile Canyon phacelia	VASC	Boraginaceae			BLMS	1B.2		G3	S3		No	16-Nov-10				K										K		
<i>Phacelia parishii</i>	Parish's phacelia	VASC	Boraginaceae			BLMS	1B.1		G2G3	S1		No	03-Jun-13	The only known population on BLM lands in Southern California is within and immediately adjacent to a military maneuvering training area. This species was at one time considered extirpated in CA, but was rediscovered in 1989.				K											

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<i>Phacelia phacelioides</i>	Mount Diablo phacelia	VASC	Boraginaceae			BLMS	1B.2		G1	S1		No	03-Jun-13	Known but very uncommon within ACEC of Clear Creek Management Area acc 2009 Draft CCMA RMP/EIS. Six records from CCMA in Cal Flora 2009.								K								
<i>Phaeocollybia californica</i>	California phaeocollybia	FUNG	Cortinariaceae			BLMS			G3	None		No	28-Apr-15			K													S	
<i>Phaeocollybia olivacea</i>	olive phaeocollybia	FUNG	Cortinariaceae			BLMS			G3	None		No	16-Nov-10			K													S	
<i>Phaeocollybia piceae</i>	'spruce phaeocollybia'	FUNG	Cortinariaceae			BLMS			G3?	None		No	16-Nov-10			K														
<i>Phaeocollybia pseudofestiva</i>	no common name	FUNG	Cortinariaceae			BLMS			G3	None		No	16-Nov-10			S														
<i>Phaeocollybia scatesiae</i>	no common name	FUNG	Cortinariaceae			BLMS			G3?	None		No	16-Nov-10			K														
<i>Phaeocollybia spadicea</i>	spadicea phaeocollybia	FUNG	Cortinariaceae			BLMS			G3G4	None		No	16-Nov-10			K													S	
<i>Phlox hirsuta</i>	Yreka phlox	VASC	Polemoniaceae	FE	SE		1B.2		G1	S1		Yes																	S	
<i>Pholisma sonorae</i>	sand food	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Formerly included in the family Lennoaceae.																
<i>Piperia candida</i>	white-flowered rein orchid	VASC	Orchidaceae			BLMS	1B.2		G3?	S2		No	03-Jun-13	May be on public lands on Red Mt. Jennifer to check--will leave as suspected for now.		S														
<i>Piperia yadonii</i>	Yadon's rein orchid	VASC	Orchciaceae	FE			1B.1		G2	S2		Yes	13-Sep-12																	
<i>Plagiobothrys uncinatus</i>	hooked popcorn-flower	VASC	Boraginaceae			BLMS	1B.2		G2	S2		No	03-Jun-13				S													
<i>Pleuropogon hooverianus</i>	Hoover's semaphore grass	VASC	Poaceae		ST	BLMS	1B.1		G2	S2		No	13-Sep-12			S														
<i>Poa diaboli</i>	Diablo Canyon blue grass	VASC	Poaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	May be on BLM lands in Ruda Canyon, San Luis Obispo Co.			S													
<i>Polyctenium williamsiae</i>	Williams's combleaf	VASC	Brassicaceae			BLMS	1B.2	T	G2Q	S1 (CA); S2 (NV)	CE	No	03-Jun-13	Known in Bishop on BLM land in the Bodie area. Because the Jepson Manual 2nd Edition and the Flora of North America reduced this species to synonymy under P. fremontii, the species was recently reviewed and kept on List 1B.2 by CNPS and CNDDB by decision dated February 8, 2012.	S				K	S										

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<i>Polygonum polygaloides subsp. esotericum</i>	Modoc County knotweed	VASC	Polygonaceae			BLMS	1B.1		G4G5T3	S3		No	28-Apr-15		K															
<i>Polyozellus multiplex</i>	blue chanterelle	FUNG	Thelephoraceae			BLMS			G4G5	None		No	16-Nov-10		S															
<i>Potentilla basaltica</i>	Black Rock potentilla	VASC	Rosaceae	FC		BLMS	1B.3	T	G1	S1(CA); S1(NV)		No		Threats appear to be competition from meadow plant species.	K												S			
<i>Pseudobahia peirsonii</i>	Tulare pseudobahia	VASC	Asteraceae	FT	SE		1B.1		G1	S1		No				S														
<i>Ptilidium californicum</i>	Pacific fuzzwort	BRYO	Ptilidiaceae			BLMS	4.3		G3G4	S3?		No	03-Jun-13		K											S				
<i>Puccinellia howellii</i>	Howell's alkali-grass	VASC	Poaceae			BLMS	1B.1		G1	S1		No	03-Jun-13													S				
<i>Puccinellia parishii</i>	Parish's alkaligrass	VASC	Poaceae			BLMS	1B.1		G2G3	S1		No				S														
<i>Pyrocoma lucida</i>	sticky pyrocoma	VASC	Asteraceae			BLMS	1B.2		G3	S3		No	13-Sep-12						K											
<i>Raillardella pringlei</i>	showy raillardella	VASC	Asteraceae			BLMS	1B.2		G3	S3		No													S					
<i>Ramalina pollinaria</i>	dusty ramalina	LICH	Ramalinaceae			BLMS			G4	None		No	16-Nov-10		K															
<i>Ramaria amyloidea</i>	'pinkish coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K															
<i>Ramaria aurantiisiccescens</i>	'yellow coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K															
<i>Ramaria cyaneigranosa</i>	'pinkish coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	28-Apr-15		S															
<i>Ramaria largentii</i>	'orange coral mushroom'	FUNG	Ramariaceae			BLMS			G3	None		No	16-Nov-10		K															
<i>Rhynchospora californica</i>	California beaked-rush	VASC	Cyperaceae			BLMS	1B.1		G1	S1		No	03-Jun-13													S				
<i>Ribes canthariforme</i>	Moreno currant, San Diego currant	VASC	Grossulariaceae			BLMS	1B.3		G2	S2		No	16-Nov-10												S					
<i>Ribes tularense</i>	Sequoia gooseberry	VASC	Grossulariaceae			BLMS	1B.3		G2	S2		No	28-Apr-15			K														
<i>Rorippa columbiae</i>	Columbia yellow cress	VASC	Brassicaceae			BLMS	1B.2		G3	S1		No			S					S					S					
<i>Rupertia hallii</i>	Hall's rupertia	VASC	Fabaceae			BLMS	1B.2		G2G3	S2S3		No	28-Apr-15													K				
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	VASC	Alismataceae			BLMS	1B.2		G3	S3		No	13-Sep-12													K				

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	FED STATUS	CA STATUS	BLM STATUS	CA RARE PLANT RANK	NNPS STATUS	GLOBAL RANK	STATE RANK	NV STATUS	RECOVERY PLAN?	DATE UPDATED	COMMENTS	ALTURAS	ARCATA	BAKERSFIELD	BARSTOW	BISHOP	EAGLE LAKE	EL CENTRO	HOLLISTER	MOTHER LODGE	NEEDLES	PALM SPRINGS	REDDING	RIDGECREST	SURPRISE	UKIAH		
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	VASC	Polemoniaceae			BLMS	1B.2		G2	S2		No	28-Apr-15	Known to occur on BLM lands along or near currently designated OHV routes in the Old Dad Mountains south of the west end of the Mojave National Preserve acc. Jim Weigand.										K	K	K					
<i>Salvia greatae</i>	Orocopia sage	VASC	Lamiaceae			BLMS	1B.3		G2G3	S2S3		No	28-Apr-15	CNDDDB Occurrence # 11 is from the south edge of the Trilobite Wilderness near Amboy (Needles Field Office), far from the core of its range in southern Riverside County. The occurrence (shown on BLM lands) is unvouchered and was listed as <i>Salvia cf. funerea</i> by Spaulding and Twitchell in 1978. CNDDDB decided it must be <i>S. greatae</i> . Kam Barrows looked at the occurrence in 1986 and found no plants.										S	K						
<i>Sanicula saxatilis</i>	rock sanicle	VASC	Apiaceae		SR	BLMS	1B.2		G2	S2		No	13-Sep-12									S									
<i>Sarcodon fuscoindicum</i>	violet hedgehog	FUNG	Bankeraceae			BLMS			G3	None		No	16-Nov-10			K															
<i>Sedum albomarginatum</i>	Feather River stonecrop	VASC	Crassulaceae			BLMS	1B.2		G2	S2		No	28-Apr-15													S					
<i>Sedum laxum subsp. eastwoodiae</i>	Red Mountain stonecrop	VASC	Crassulaceae			BLMS	1B.2		G5T2	S2		No	03-Jun-13	Formerly <i>S. eastwoodiae</i> (Britton) Berger. Formerly a Federal candidate for listing, but removed from the candidate list on publication of a "Listing not warranted" finding by the U.S. Fish and Wildlife Service (Federal Register 79: 56029, September 18, 2014).		K															
<i>Sedum obtusatum subsp. paradisum</i>	Canyon Creek stonecrop	VASC	Crassulaceae			BLMS	1B.3		G4G5T2	S2		No	16-Nov-10	Formerly <i>S. paradisum</i> (M. Denton) M. Denton.												K					

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<i>Senecio clevelandii</i> var. <i>heterophyllus</i>	Red Hills ragwort	VASC	Asteraceae			BLMS	1B.2		G4?T2Q	S2?		Yes	03-Jun-13	<i>Senecio clevelandii</i> is now <i>Packera clevelandii</i> , but the combination <i>Packera clevelandii</i> var. <i>heterophylla</i> has not been validly published. This variety has been reduced to synonymy in the Jepson Manual 1st and 2nd editions. The treatment by Barkley in Jepson Manual 1 was not based on genetic work. Barkley's treatment has been continued by Trock in Jepson Manual 2 and Flora North America. CDFW, CNPS, and BLM will continue to recognize the variety until genetic work conclusively shows that vars. <i>clevelandii</i> and <i>heterophyllus</i> are actually the same taxon.																		
<i>Sidalcea covillei</i>	Owens Valley checkerbloom	VASC	Malvaceae		SE	BLMS	1B.1		G2	S2		No	28-Apr-15					K														
<i>Sidalcea hickmanii</i> subsp. <i>anomala</i>	Cuesta Pass checkerbloom	VASC	Malvaceae		SR	BLMS	1B.2		G3T1	S1		No	13-Sep-12			S						S										
<i>Sidalcea hickmanii</i> subsp. <i>parishii</i>	Parish's checkerbloom	VASC	Malvaceae		SR	BLMS	1B.2		G3T1	S1		No	03-Jun-13	This species used to be a Federal candidate but was removed from the candidate list in 2006.											S							
<i>Sidalcea keckii</i>	Keck's checkerbloom	VASC	Malvaceae	FE			1B.1		G1	S1		No	13-Sep-12				K															
<i>Sidalcea malviflora</i> subsp. <i>patula</i>	Siskiyou checkerbloom	VASC	Malvaceae			BLMS	1B.2		G5T2	S2		No	13-Sep-12			S																
<i>Sidalcea oregana</i> subsp. <i>eximia</i>	coast checkerbloom	VASC	Malvaceae			BLMS	1B.2		G5T1	S1		No				S																
<i>Sidalcea robusta</i>	Butte County checkerbloom	VASC	Malvaceae			BLMS	1B.2		G2	S2		No	13-Sep-12													K						
<i>Silene campanulata</i> subsp. <i>campanulata</i>	Red Mountain catchfly	VASC	Caryophyllaceae		SE	BLMS	4.2		G5T3Q	S3		No	28-Apr-15	Known from Red Mountain, Mendocino Co., Arcata FO; suspected on public lands in Ukiah FO from an occurrence near public lands in the Gilmore Peak 24k quad, Colusa Co.		K														S		

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<i>Silene occidentalis subsp. longistipitata</i>	long-stiped campion	VASC	Caryophyllaceae			BLMS	1B.2		G4T2Q	S2		No	16-Nov-10												S				
<i>Smilax jamesii</i>	English Peak greenbriar	VASC	Smilacaceae			BLMS	1B.3		G2	S2		No													S				
<i>Sowerbyella rhenana</i>	stalked orange peel fungus	FUNG	Pyrenemataceae			BLMS			G3G5	None		No	16-Nov-10		S										S				
<i>Sparassis crispa</i>	cauliflower mushroom	FUNG	Sparassidaceae			BLMS			None	None		No	16-Nov-10		K														
<i>Spathularia flavida</i>	fairy fan	FUNG	Cudoniaceae			BLMS			G4G5	None		No	16-Nov-10		K										S				
<i>Sphaeralcea rusbyi var. eremicola</i>	Rusby's desert-mallow	VASC	Malvaceae			BLMS	1B.2		G4T2	S2		No	13-Sep-12	CNPS Rare Plant Treasure Hunt found 19 new occurrences in 2010.									K						
<i>Stenotus lanuginosus var. lanuginosus</i>	woolly stenotus	VASC	Asteraceae			BLMS	2B.2		G5T3	S3		No	28-Apr-15	Known in CA from fewer than five occurrences. This species occurs at low numbers at each site.	K														
<i>Stipa exigua</i>	little ricegrass	VASC	Poaceae			BLMS	2B.3		G5	S2		No	03-Jun-13	Formerly <i>Oryzopsis exigua</i> Thurb. Known in CA from only two widely separated occurrences, one on public lands within the Eagle Lake Field Office which burned within the last few years. It is not common in NV. Threats include grazing and weed invasion following the recent fire.	K				K										S
<i>Streptanthus albidus subsp. albidus</i>	Metcalf Canyon jewel-flower	VASC	Brassicaceae	FE			1B.1		G2T1	S1		Yes	13-Sep-12									S							
<i>Streptanthus brachiatus subsp. brachiatus</i>	Socrates Mine jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		Yes	03-Jun-13																K
<i>Streptanthus brachiatus subsp. hoffmanii</i>	Freed's jewelflower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	16-Nov-10	This taxon was recognized in Jepson Manual 1st edition, but is reduced to synonymy under <i>S. brachiatus</i> in the 2nd edition.															K
<i>Streptanthus callistus</i>	Mount Hamilton jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G1	S1		No	13-Sep-12									S							

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<i>Streptanthus campestris</i>	southern jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G3	S3		No	28-Apr-15	Nonspecific CNDDDB Occurrence 8, in the El Centro FO, is on lands slated for renewable energy; there are BLM lands within the mapped 1 mile radius circle, but there are also private lands. Occurrence 1, in the Palm Springs FO, contains BLM lands within the mapped 1 mile radius circle, but most of the lands within the circle are private.										S						
<i>Streptanthus cordatus</i> var. <i>piutensis</i>	Piute Mountains jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G5T1	S1		No	03-Jun-13				K										K			
<i>Streptanthus glandulosus</i> subsp. <i>hoffmannii</i>	Hoffmann's jewel-flower	VASC	Brassicaceae			BLMS	1B.3		G4TH	SH		No	16-Nov-10	Elevated from <i>S. g.</i> var. <i>hoffmannii</i> Kruckeberg to subsp. <i>hoffmannii</i> in Jepson Manual 2nd edition.																S
<i>Streptanthus morrisonii</i> subsp. <i>elatus</i>	Three Peaks jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																K
<i>Streptanthus morrisonii</i> subsp. <i>hirtiflorus</i>	Dorr's Cabin jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		No	28-Apr-15	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																S
<i>Streptanthus morrisonii</i> subsp. <i>kruckebergii</i>	Kruckeberg's jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T1	S1		No	03-Jun-13	Reduced to synonymy under <i>S. morrisonii</i> in Jepson Manual 2nd edition.																K
<i>Streptanthus morrisonii</i> subsp. <i>morrisonii</i>	Morrison's jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	28-Apr-15	The Jepson Manual 2nd edition does not recognize any subspecific taxa under <i>S. morrisonii</i> .																K
<i>Streptanthus oliganthus</i>	Masonic Mountain jewel-flower	VASC	Brassicaceae			BLMS	1B.2	W	G2G3	S2		No	28-Apr-15						K											
<i>Streptanthus vernalis</i>	early jewel-flower	VASC	Brassicaceae			BLMS	1B.2		G1	S1		No	24-Aug-09	Known from only one occurrence on serpentine at Three Peaks.																K
<i>Stylocline citroleum</i>	oil neststraw	VASC	Asteraceae			BLMS	1B.1		G2	S2		No	18-Sep-12	After reviewing CNDDDB, specific occurrence 18 has BLM lands within the mapped circle.			K													
<i>Stylocline masonii</i>	Mason neststraw	VASC	Asteraceae			BLMS	1B.1		G1	S1		No	03-Jun-13				S													

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<i>Sulcaria isidiifera</i>	splitting yarn lichen	LICH	Alectoriaceae			BLMS	1B.1		G1	S1		No	26-Jan-15	A 5-acre BLM parcel is inside of the 1/5 mile circle mapped for Occurrence Number 4 of this species.			S												
<i>Symphotrichum greatae</i>	Greata's aster	VASC	Asteraceae			BLMS	1B.3		G3	S3		No	28-Apr-15	CNDDDB Occurrence 41 in Ventura County abuts BLM lands in the Bakersfield Field Office. Occurrence 36 in Los Angeles County (Palm Springs Field Office) has small area of BLM lands within the nonspecific mapped 1-mile radius circle, this based on an 1893 collection.			S								S				
<i>Symphotrichum defoliatum</i>	San Bernardino aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	Newly accepted name for <i>Aster bernardinus</i> H.M. Hall. CNDDDB maps nonspecific location close to BLM lands on Mt. Laguna.							S			S	S				
<i>Teloschistes flavicans</i>	orangebush lichen	LICH	Teloschistaceae			BLMS			G4G5	None		No	16-Nov-10			S													
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	VASC	Euphorbiaceae			BLMS	1B.2		G3?	S2		No	28-Apr-15													K			
<i>Tetraphis geniculata</i>	bent-kneed four-tooth moss	BRYO	Tetraphidaceae			BLMS			G3G5	None		No	16-Nov-10			S													
<i>Thelypodium howellii</i> var. <i>howellii</i>	Howell's thelypodium	VASC	Brassicaceae			BLMS	1B.2		G2T2	S2		No	03-Jun-13		S				K									S	
<i>Thermopsis californica</i> var. <i>semota</i>	velvety false lupine	VASC	Fabaceae			BLMS	1B.2		G4T2	S2		No	28-Apr-15	Nonspecific CNDDDB Occurrence 16 borders BLM land slated for renewable energy.							S								
<i>Thysanocarpus rigidus</i>	Ridge Fringepod	VASC	Brassicaceae			BLMS	1B.2		G1G2	S1S2		No	03-Oct-11	Currently shown in 2 locations close to BLM lands in the Laguna Mountains.							S								
<i>Tortula californica</i>	California screw moss	BRYO	Pottiaceae			BLMS	1B.2		G2?	S2		No	13-Sep-12				S												
<i>Trifolium buckwestiorum</i>	Santa Cruz clover	VASC	Fabaceae			BLMS	1B.1		G2	S2		No	03-Jun-13	Known from 3 locations at Fort Ord, one of which along road scheduled to be widened (entered 1/24/02).								K							
<i>Trifolium jokerstii</i>	Butte County golden clover	VASC	Fabaceae			BLMS	1B.2		G2	S2		No	03-Jun-13												K				

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<i>Trifolium kingii subsp. dedeckerae</i>	DeDecker's clover	VASC	Fabaceae			BLMS	1B.3		G2	S2		No	28-Apr-15	DFG and CNPS still have as <i>T. dedeckerae</i> J.M Gillett. Was <i>Trifolium macilentum</i> var. <i>dedeckerae</i> (J.M. Gillett) Barneby in Jepson Manual 1st edition. The treatment used here is the treatment in Jepson Manual 2nd edition.			S											K		
<i>Trifolium polyodon</i>	Pacific Grove clover	VASC	Fabaceae		SR	BLMS	1B.1		G1	S1		No	03-Jun-13									K								
<i>Triteleia piutensis</i>	Piute Mountains triteleia	VASC	Themidaceae			BLMS	1B.1		G1	S1		No	20-Jan-15	Recently described by Kentner, E. and K. Steiner. 2014. A new species of <i>Triteleia</i> (Themidaceae) from the southern Sierra Nevada. Madroño 61(2): 227-230. Added to CDFW/CNPS list on 7/24/2014.			K													
<i>Usnea longissima</i>	long beard lichen	LICH	Parmeliaceae			BLMS	4.2		G4	S4		No	28-Apr-15			K														
<i>Verbena californica</i>	Red Hills vervain	VASC	Verbenaceae	FT	ST		1B.1		G2	S2		No	13-Sep-12										K							
<i>Vermilacinia cephalota</i>	powdery fog lichen	LICH	Ramalinaceae			BLMS			G3G4	None		No	16-Nov-10	Formerly <i>Niebla cephalota</i> (Tuck.) Rundel & Bowler, which the PLANTS database treats as a synonym.		K														
<i>Wyethia reticulata</i>	El Dorado mule ears	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	13-Sep-12	FWS Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills addresses this species even though it's not federally listed.									K							
<i>Xylorhiza cognata</i>	Mecca-aster	VASC	Asteraceae			BLMS	1B.2		G2	S2		No	03-Jun-13	Occurs on BLM lands along or near OHV routes and trails in the Meccacopia Special Recreation Area acc. Jim Weigand.											K					
<i>Xylorhiza orcuttii</i>	Orcutt's woody aster	VASC	Asteraceae			BLMS	1B.2		G2G3	S2		No	13-Sep-12																	

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<i>Zeltnera namophila</i>	spring-loving centaury	VASC	Gentianaceae	FT				t	G2Q	S2 (Nevada)	CE	Yes	28-Apr-15	Formerly <i>Centaurium namophilum</i> Reveal, C.R. Boome, & Beatley, this species is now treated as <i>Zeltnera namophila</i> in the Jepson Manual, 2nd edition. Although the CNPS Inventory, accessed 8/8/2013, still treats this as <i>Centaurium namophilum</i> (var. <i>namophilum</i>) and states that the species does not occur in California, citing previous records they consider to be based on a misidentification of <i>C. exaltatum</i> (Griseb.) Piper, the Jepson Manual 2 believes that the specimens referred to <i>C. exaltatum</i> are in fact <i>Z. namophila</i> . This species is almost certainly in the Carson Slough area of the Barstow Field Office.				K													

Type of Plant: BRYO = Bryophyte; FUNG = Fungus; LICH = Lichen; VASC = Vascular plant; Federal Status: FE = Federally Endangered; FT = Federally Threatened; FC = Federal Candidate; FP = Proposed for Federal Listing; FD = Federally Delisted. State of California (CA) Status: SE = State Endangered; ST = State Threatened; SR = State Rare. California Rare Plant Rank. 1! = Plants presumed extinct in CA; 1B = Plants rare, threatened, or endangered in CA and elsewhere- 2 = Plants rare, threatened, or endangered in CA, but more common elsewhere- 3 = Plants about which more Information is needed- 4 = Plants of limited distribution – a watch list/ Decimals following the CA Rare Plant Rank Numbers: x.1 = Seriously endangered in CA; x.2 = Fairly endangered in CA; x.3 = Not very endangered in CA. Nevada Native Plant Society (NNPS) Status: W = Watch List. State of Nevada (NV) Status: CE = Critically Endangered; CE# = Proposed for Critically Endangered. Global and State Rank: The Global Rank is assigned by NatureServe and reflects the overall condition of the element throughout its global range; G-ranks are used for species as a whole, T-ranks for subspecies; the State (S) Rank is assigned by the State Heritage Program and reflects the overall condition of the element within a State. Code meanings can be found at: <http://www.natureserve.org/explorer/ranking.htm#interpret>. Comments: Additional information, only provided for some plants. Date Updated: This field is provided to show when changes or updates were last made to an element; this tracking was implemented only in recent years, so the field is blank for most elements. K or S under BLM field offices: K = Known to occur on BLM lands managed by that field office; S = Suspected to occur on BLM lands managed by that field office.

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Shasta crayfish	Pacifastacus fortis	FE	SE		
Arcata	22 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Fork-tailed storm-petrel	Oceanodroma furcata			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Reptile					
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Amphibian					
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Fish					
	Central Valley spring-run chinook salmon	Oncorhynchus tshawytscha ESU spring-run	FT	ST		
	Coho salmon - central California coast	Oncorhynchus kisutch	FE	SE		
	Pacific lamprey	Entosphenus tridentatus			BLMS	
	Invertebrate					
	Hooded lancetooth	Ancotrema voyanum			BLMS	
	Oregon shoulderband snail	Helminthoglypta hertleini			BLMS	
	Trinity shoulderband snail	Helminthoglypta talmadgei			BLMS	

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Bakersfield	50 Species					
	Mammal					
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Fringed myotis	Myotis thysanodes			BLMS	
	Giant kangaroo rat	Dipodomys ingens	FE	SE		
	Long-eared myotis	Myotis evotis			BLMS	
	Nelson's antelope squirrel	Ammospermophilus nelsoni		ST	BLMS	
	Owens Valley vole	Microtus californicus vallicola			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	San Joaquin kit fox	Vulpes macrotis mutica	FE	ST		
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Short-nosed kangaroo rat	Dipodomys nitratooides brevinasus			BLMS	
	Sierra Nevada bighorn sheep	Ovis canadensis sierrae	FE	SE		SF
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Tipton kangaroo rat	Dipodomys nitratooides nitratooides	FE	SE		
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Tulare grasshopper mouse	Onychomys torridus tularensis			BLMS	
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yellow-eared pocket mouse	Perognathus xanthonotus			BLMS	
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Brown pelican	Pelecanus occidentalis	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Gray vireo	Vireo vicinior			BLMS	SSC
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Mountain plover	Charadrius montanus			BLMS	SSC

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	San Joaquin Le Conte's thrasher	Toxostoma lecontei macmillanorum			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
Reptile						
	Blunt-nosed leopard lizard	Gambelia sila	FE	SE		SF
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	
	Two-striped garter snake	Thamnophis hammondi			BLMS	
Amphibian						
	California tiger salamander	Ambystoma californiense	FT	SC		SSC
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Tehachapi slender salamander	Batrachoseps stebbinsi			BLMS	
	Western spadefoot toad	Spea hammondi			BLMS	
	Yellow-blotched salamander	Ensatina eschscholtzii croceator			BLMS	
Fish						
	Pacific lamprey	Entosphenus tridentatus			BLMS	
	Unarmored threespine stickleback	Gasterosteus aculeatus williamsoni	FE	SE		SF
Invertebrate						
	San Joaquin dune beetle	Coelus gracilis			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Barstow	23 Species					
	Mammal					
	Amargosa vole	Microtus californicus scirpensis	FE	SE		
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fringed myotis	Myotis thysanodes			BLMS	
	Mohave ground squirrel	Spermophilus mohavensis		ST	BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Spotted bat	Euderma maculatum			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Bird					
	Bendire's thrasher	Toxostoma bendirei			BLMS	SSC
	Burrowing owl	Athene cunicularia			BLMS	SSC
	Gray vireo	Vireo vicinior			BLMS	SSC
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	Reptile					
	Desert tortoise	Gopherus agassizii	FT	ST		
	Gila monster	Heloderma suspectum			BLMS	
	Mojave fringe-toed lizard	Uma scoparia			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	
	Fish					
	Amargosa River pupfish	Cyprinodon nevadensis amargosae			BLMS	
	Amargosa speckled dace	Rhinichthys osculus ssp. 1			BLMS	
	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
	Invertebrate					
	Shoshone Cave whip-scorpion	Hubbardia shoshonensis			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Bishop	30 Species					
	Mammal					
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Mohave ground squirrel	Spermophilus mohavensis		ST	BLMS	
	Owens Valley vole	Microtus californicus vallicola			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Pygmy rabbit	Brachylagus idahoensis			BLMS	
	Sierra Nevada bighorn sheep	Ovis canadensis sierrae	FE	SE		SF
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sage-grouse	Centrocercus urophasianus	FC		BLMS	SSC
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	Reptile					
	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	
	Panamint alligator lizard	Elgaria panamintina			BLMS	
	Amphibian					
	Black toad	Anaxyrus exsul		ST	BLMS	SF
	Inyo Mountains slender salamander	Batrachoseps campi			BLMS	
	Fish					
	Amargosa River pupfish	Cyprinodon nevadensis amargosae			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Owens pupfish	Cyprinodon radiosus	FE	SE		SF
	Owens speckled dace	Rhinichthys osculus ssp. 2			BLMS	
	Owens tui chub	Siphateles bicolor snyderi	FE	SE		
Eagle Lake	20 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Pygmy rabbit	Brachylagus idahoensis			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sage-grouse	Centrocercus urophasianus	FC		BLMS	SSC
	Greater sandhill crane	Grus canadensis tabida		ST	BLMS	SF
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Reptile					
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
El Centro	40 Species					
	Mammal					
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Cave myotis	Myotis velifer			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Palm Springs little pocket mouse	Perognathus longimembris bangsi			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Arizona bell's vireo	Vireo bellii arizonae		SE	BLMS	
	Brown pelican	Pelecanus occidentalis	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Elf owl	Micrathene whitneyi		SE	BLMS	
	Gila woodpecker	Melanerpes uropygialis		SE	BLMS	
	Gilded flicker	Colaptes chrysoides		SE	BLMS	
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Lucy's warbler	Oreothlypis luciae			BLMS	SSC
	Mountain plover	Charadrius montanus			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	Yuma clapper rail	Rallus longirostris yumanensis	FE	ST		SF
	Reptile					
	Barefoot banded gecko	Coleonyx switaki		ST	BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Colorado Desert fringe-toed lizard	Uma notata			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Desert tortoise	Gopherus agassizii	FT	ST		
	Flat-tailed horned lizard	Phrynosoma mcalli			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	
	Two-striped garter snake	Thamnophis hammondi			BLMS	
Amphibian	Couch's spadefoot toad	Scaphiopus couchi			BLMS	
	Lowland leopard frog	Lithobates yavapaiensis			BLMS	
Fish	Colorado pikeminnow	Ptychocheilus lucius	FE	SE		SF
	Desert pupfish	Cyprinodon macularius	FE	SE		
	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
	Razorback sucker	Xyrauchen texanus	FE	SE		SF
	Unarmored threespine stickleback	Gasterosteus aculeatus williamsoni	FE	SE		SF

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Hollister	37 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Giant kangaroo rat	Dipodomys ingens	FE	SE		
	Long-eared myotis	Myotis evotis			BLMS	
	Nelson's antelope squirrel	Ammospermophilus nelsoni		ST	BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	San Joaquin kit fox	Vulpes macrotis mutica	FE	ST		
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Short-nosed kangaroo rat	Dipodomys nitratoides brevinasus			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Tulare grasshopper mouse	Onychomys torridus tularensis			BLMS	
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Brown pelican	Pelecanus occidentalis	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Mountain plover	Charadrius montanus			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Reptile					
	Blunt-nosed leopard lizard	Gambelia sila	FE	SE		SF
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Two-striped garter snake	Thamnophis hammondi			BLMS	
Amphibian	California tiger salamander	Ambystoma californiense	FT	SC		SSC
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Western spadefoot toad	Spea hammondi			BLMS	
Fish	Coho salmon - central California coast	Oncorhynchus kisutch	FE	SE		
	Pacific lamprey	Entosphenus tridentatus			BLMS	
Invertebrate	Ciervo aegialian scarab beetle	Aegialia concinna			BLMS	
	San Joaquin dune beetle	Coelus gracilis			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Mother Lode	33 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sandhill crane	Grus canadensis tabida		ST	BLMS	SF
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Reptile					
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Amphibian					
	California tiger salamander	Ambystoma californiense	FT	SC		SSC
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Limestone salamander	Hydromantes brunus		ST	BLMS	SF
	Western spadefoot toad	Spea hammondi			BLMS	
	Fish					

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Central Valley spring-run chinook salmon	Oncorhynchus tshawytscha ESU spring-run	FT	ST		
	Pacific lamprey	Entosphenus tridentatus				BLMS
	Red Hills roach	Lavinia symmetricus ssp. 3				BLMS
Invertebrate						
	Hirsute Sierra sideband snail	Monadenia mormonum hirsute				BLMS
	Keeled sideband snail	Monadenia circumcarinata				BLMS
	Tuolumne sideband snail	Monadenia tuolumneana				BLMS

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Needles	22 Species					
	Mammal					
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Arizona bell's vireo	Vireo bellii arizonae		SE	BLMS	
	Bendire's thrasher	Toxostoma bendirei			BLMS	SSC
	Burrowing owl	Athene cunicularia			BLMS	SSC
	Elf owl	Micrathene whitneyi		SE	BLMS	
	Gila woodpecker	Melanerpes uropygialis		SE	BLMS	
	Gilded flicker	Colaptes chrysoides		SE	BLMS	
	Gray vireo	Vireo vicinior			BLMS	SSC
	Lucy's warbler	Oreothlypis luciae			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Yuma clapper rail	Rallus longirostris yumanensis	FE	ST		SF
	Reptile					
	Desert tortoise	Gopherus agassizii	FT	ST		
	Gila monster	Heloderma suspectum			BLMS	
	Mojave fringe-toed lizard	Uma scoparia			BLMS	
	Fish					
	Colorado pikeminnow	Ptychocheilus lucius	FE	SE		SF
	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
	Razorback sucker	Xyrauchen texanus	FE	SE		SF

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Palm Springs	53 Species					
	Mammal					
	California leaf-nosed bat	Macrotus californicus			BLMS	SSC
	Cave myotis	Myotis velifer			BLMS	SSC
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	Palm Springs little pocket mouse	Perognathus longimembris bangsi			BLMS	
	Palm Springs round-tailed ground squirrel	Spermophilus tereticaudus chlorus	FC		BLMS	SSC
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Stephens' kangaroo rat	Dipodomys stephensi	FE	ST		
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	White-eared pocket mouse	Perognathus alticola			BLMS	
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Ashy storm-petrel	Oceanodroma homochroa			BLMS	SSC
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Bendire's thrasher	Toxostoma bendirei			BLMS	SSC
	Brown pelican	Pelecanus occidentalis	FD	SD	BLMS	SF
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Elf owl	Micrathene whitneyi		SE	BLMS	
	Gilded flicker	Colaptes chrysoides		SE	BLMS	
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Least Bell's vireo	Vireo bellii pusillus	FE	SE		
	Lucy's warbler	Oreothlypis luciae			BLMS	SSC
	Southwestern willow flycatcher	Empidonax traillii extimus	FE	SE		
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FC	SE	BLMS	
	White-tailed kite	<i>Elanus leucurus</i>			BLMS	SF
	Xantus' murrelet	<i>Synthliboramphus hypoleucus</i>	FC	ST	BLMS	
	Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	FE	ST		SF
Reptile	Coachella Valley fringe-toed lizard	<i>Uma inornata</i>	FT	SE		
	Coast horned lizard	<i>Phrynosoma blainvillii</i>			BLMS	
	Coronado skink	<i>Plestiodon skiltonianus interparietalis</i>			BLMS	
	Desert tortoise	<i>Gopherus agassizii</i>	FT	ST		
	Flat-tailed horned lizard	<i>Phrynosoma mcalli</i>			BLMS	
	Gila monster	<i>Heloderma suspectum</i>			BLMS	
	Mojave fringe-toed lizard	<i>Uma scoparia</i>			BLMS	
	Southwestern pond turtle	<i>Actinemys marmorata pallida</i>			BLMS	
	Two-striped garter snake	<i>Thamnophis hammondi</i>			BLMS	
Amphibian	Couch's spadefoot toad	<i>Scaphiopus couchi</i>			BLMS	
	Desert slender salamander	<i>Batrachoseps major aridus</i>	FE	SE		
	Western spadefoot toad	<i>Spea hammondi</i>			BLMS	
	Yellow-blotched salamander	<i>Ensatina eschscholtzii croceator</i>			BLMS	
Fish	Colorado pikeminnow	<i>Ptychocheilus lucius</i>	FE	SE		SF
	Desert pupfish	<i>Cyprinodon macularius</i>	FE	SE		
	Mojave tui chub	<i>Siphateles bicolor mohavensis</i>	FE	SE		SF
	Razorback sucker	<i>Xyrauchen texanus</i>	FE	SE		SF
	Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	FE	SE		SF
Invertebrate	Thorne's hairstreak butterfly	<i>Callophrys thornei</i>			BLMS	

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FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Redding	38 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sandhill crane	Grus canadensis tabida		ST	BLMS	SF
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Reptile					
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Coast horned lizard	Phrynosoma blainvillii			BLMS	
	Amphibian					
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Shasta salamander	Hydromantes shastae			BLMS	
	Western spadefoot toad	Spea hammondii			BLMS	
	Fish					
	Central Valley spring-run chinook salmon	Oncorhynchus tshawytscha ESU spring-run	FT	ST		

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Lost River sucker	<i>Deltistes luxatus</i>	FE	SE		SF
	Pacific lamprey	<i>Entosphenus tridentatus</i>			BLMS	
	Rough sculpin	<i>Cottus asperrimus</i>		ST	BLMS	
	Sacramento River winter-run chinook salmon	<i>Oncorhynchus tshawytscha</i> ESU winter-run	FE	SE		
	Shortnose sucker	<i>Chasmistes brevirostris</i>	FE	SE		SF
Invertebrate						
	Big Bar hesperian snail	<i>Vespericola pressleyi</i>			BLMS	
	Hooded lancetooth	<i>Ancotrema voyanum</i>			BLMS	
	Oregon shoulderband snail	<i>Helminthoglypta hertleini</i>			BLMS	
	Siskiyou shoulderband snail	<i>Monadenia chaceana</i>			BLMS	
	Tehama chaparral snail	<i>Trilobopsis tehamana</i>			BLMS	
	Trinity shoulderband snail	<i>Helminthoglypta talmadgei</i>			BLMS	

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Ridgecrest	31 Species					
	Mammal					
	Desert bighorn sheep	Ovis canadensis nelsoni			BLMS	SF
	Long-eared myotis	Myotis evotis			BLMS	
	Mohave ground squirrel	Spermophilus mohavensis		ST	BLMS	
	Nelson's antelope squirrel	Ammospermophilus nelsoni		ST	BLMS	
	Owens Valley vole	Microtus californicus vallicola			BLMS	
	Pallid bat	Antrozous pallidus			BLMS	SSC
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Spotted bat	Euderma maculatum			BLMS	SSC
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Tulare grasshopper mouse	Onychomys torridus tularensis			BLMS	
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yellow-eared pocket mouse	Perognathus xanthonotus			BLMS	
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bendire's thrasher	Toxostoma bendirei			BLMS	SSC
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California spotted owl	Strix occidentalis occidentalis			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Gray vireo	Vireo vicinior			BLMS	SSC
	Inyo California towhee	Melospiza crissalis eremophilus	FT	SE		
	Mountain plover	Charadrius montanus			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Reptile					
	Desert tortoise	Gopherus agassizii	FT	ST		
	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	
	Panamint alligator lizard	Elgaria panamintina			BLMS	
	Southwestern pond turtle	Actinemys marmorata pallida			BLMS	
	Two-striped garter snake	Thamnophis hammondi			BLMS	
	Amphibian					

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
	Black toad	Anaxyrus exsul		ST	BLMS	SF
	Inyo Mountains slender salamander	Batrachoseps campi			BLMS	
Fish	Mojave tui chub	Siphateles bicolor mohavensis	FE	SE		SF
Surprise	10 Species					
Mammal	Pallid bat	Antrozous pallidus			BLMS	SSC
	Sierra Nevada bighorn sheep	Ovis canadensis sierrae	FE	SE		SF
Bird	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Burrowing owl	Athene cunicularia			BLMS	SSC
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Greater sage-grouse	Centrocercus urophasianus	FC		BLMS	SSC
	Greater sandhill crane	Grus canadensis tabida		ST	BLMS	SF
	Northern goshawk	Accipiter gentilis			BLMS	SSC
Reptile	Northern sagebrush lizard	Sceloporus graciosus graciosus			BLMS	
Fish	Wall Canyon sucker	Catostomus murivallis			BLMS	

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	BLM STATUS	OTHER STATUS
Ukiah	27 Species					
	Mammal					
	Fringed myotis	Myotis thysanodes			BLMS	
	Long-eared myotis	Myotis evotis			BLMS	
	Pacific fisher	Martes pennanti (pacifica) DPS	FC	SC	BLMS	SSC
	Pallid bat	Antrozous pallidus			BLMS	SSC
	San Joaquin pocket mouse	Perognathus inornatus			BLMS	
	Small-footed myotis	Myotis ciliolabrum			BLMS	
	Townsend's big-eared bat	Corynorhinus townsendii			BLMS	SSC
	Western mastiff-bat	Eumops perotis californicus			BLMS	SSC
	Yuma myotis	Myotis yumanensis			BLMS	
	Bird					
	Bald eagle	Haliaeetus leucocephalus	FD	SE	BLMS	EA
	Bank swallow	Riparia riparia		ST	BLMS	
	Burrowing owl	Athene cunicularia			BLMS	SSC
	California black rail	Laterallus jamaicensis coturniculus		ST	BLMS	SF
	Golden eagle	Aquila chrysaetos			BLMS	EA
	Mountain plover	Charadrius montanus			BLMS	SSC
	Northern goshawk	Accipiter gentilis			BLMS	SSC
	Swainson's hawk	Buteo swainsoni		ST	BLMS	
	Tricolored blackbird	Agelaius tricolor			BLMS	SSC
	Western yellow-billed cuckoo	Coccyzus americanus occidentalis	FC	SE	BLMS	
	White-tailed kite	Elanus leucurus			BLMS	SF
	Reptile					
	California mountain kingsnake	Lampropeltis zonata			BLMS	
	Amphibian					
	California tiger salamander	Ambystoma californiense	FT	SC		SSC
	Foothill yellow-legged frog	Rana boylei			BLMS	
	Western spadefoot toad	Spea hammondi			BLMS	
	Fish					
	Central Valley spring-run chinook salmon	Oncorhynchus tshawytscha ESU spring-run	FT	ST		
	Coho salmon - central California coast	Oncorhynchus kisutch	FE	SE		
	Pacific lamprey	Entosphenus tridentatus			BLMS	

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

FIELD OFFICE

COMMON NAME

SCIENTIFIC NAME

FEDERAL STATUS STATE STATUS BLM STATUS OTHER STATUS

Federal Status: FE = Federally Endangered, FT = Federally Threatened, FC = Federal Candidate, FP = Proposed for Federal Listing, FD = Delisted from Federal ESA; State Status: SE = State Endangered, ST = State Threatened, SC = State Candidate, SD = Delisted from State ESA; Other Status: EA = Bald and Golden Eagle Protection Act, SF = Fully Protected, SSC = Species of Special Concern

APPENDIX D

**California Department
of Fish and Wildlife
RareFind report**

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE *RareFind*

Query Summary:Quad **IS** (Ogilby (3211477) **OR** Hedges (3211487))**AND** County **IS** (Imperial)

Print

Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Anomala hardyorum	Hardy's dune beetle	Insects	IICOL30060	17	1	None	None	G1	S1	null	null	Desert dunes, Sonoran desert scrub
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	2	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Apiocera warneri	Glamis sand fly	Insects	IIDIP54020	1	1	None	None	G1G2	S1S2	null	null	Desert dunes
Astragalus insularis var. harwoodii	Harwood's milk-vetch	Dicots	PDFAB0F491	120	2	None	None	G5T4	S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes, Desert wash, Mojavean desert scrub
Calliandra eriophylla	pink fairy-duster	Dicots	PDFAB0N040	53	20	None	None	G5	S3	2B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Sonoran desert scrub
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	1	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Ogilby (3211477) OR Hedges (3211487))
 AND County IS (Imperial)

Map Index Number: 63284	EO Index: 63376
Key Quad: Hedges (3211487)	Element Code: ABNYF04150
Occurrence Number: 30	Occurrence Last Updated: 2005-12-01

Scientific Name: <i>Melanerpes uropygialis</i>	Common Name: Gila woodpecker
Listing Status:	Rare Plant Rank:
Federal: None	
State: Endangered	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G5	USFWS_BCC-Birds of Conservation Concern
State: S1	

General Habitat: IN CALIFORNIA, INHABITS COTTONWOODS AND OTHER DESERT RIPARIAN TREES, SHADE TREES, AND DATE PALMS.	Micro Habitat: CAVITY NESTER IN RIPARIAN TREES OR SAGUARO CACTUS.
--	---

Last Date Observed: 2002-03-09	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-03-09	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
UNNAMED WASH SOUTH OF INDIAN WASH, ABOUT 2.25 MILES WEST OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
Ecological:
DESERT WASH WOODLAND WITH PALO VERDE & IRONWOOD SURROUNDED BY DISTURBED CREOSOTE BUSH SCRUB.

Threats:
OFF-ROAD VEHICLE USE.

General:
1 ADULT OBSERVED 9 MAR 2002.

PLSS: T14S, R20E, Sec. 34 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3642305 E699897	Latitude/Longitude: 32.90071 / -114.86272	Elevation (feet): 537

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
KON02F0001 KONECNY, J. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR MELANERPES UROPYGIALIS 2002-03-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541	EO Index: 25005
Key Quad: Hedges (3211487)	Element Code: ABPB08030
Occurrence Number: 31	Occurrence Last Updated: 1989-08-10

Scientific Name: <i>Polioptila melanura</i>	Common Name: black-tailed gnatcatcher
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_WL-Watch List
CNDDDB Element Ranks:	IUCN_LC-Least Concern
Global: G5	
State: S3S4	

General Habitat: PRIMARILY INHABITS WOODED DESERT WASH HABITATS; ALSO OCCURS IN DESERT SCRUB HABITAT, ESPECIALLY IN WINTER.	Micro Habitat: NESTS IN DESERT WASHES CONTAINING MESQUITE, PALO VERDE, IRONWOOD, ACACIA; ABSENT FROM AREAS WHERE SALT CEDAR INTRODUCED.
---	---

Last Date Observed: 1977-06-07	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-06-07	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBSERVED DURING SUMMER 1977 STUDY; 13 BREEDING PAIRS ESTIMATED.

PLSS: T14S, R20E, Sec. 22, NE (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3645946 E700809	Latitude/Longitude: 32.93336 / -114.85219	Elevation (feet): 620

County Summary: Imperial	Quad Summary: Hedges (3211487)
------------------------------------	--

Sources:
BLM80S0014 BLM - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR POLIOPTILA MELANURA LUCIDA, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN". 1980-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541	EO Index: 24395	
Key Quad: Hedges (3211487)	Element Code: ABPBK06090	
Occurrence Number: 47	Occurrence Last Updated: 1989-08-10	

Scientific Name: <i>Toxostoma crissale</i>	Common Name: Crissal thrasher
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G5	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern

General Habitat: RESIDENT OF SOUTHEASTERN DESERTS IN DESERT RIPARIAN AND DESERT WASH HABITATS.	Micro Habitat: NESTS IN DENSE VEGETATION ALONG STREAMS/WASHES; MESQUITE, SCREWBEAN MESQUITE, IRONWOOD, CATCLAW, ACACIA, ARROWWEED, WILLOW.
--	--

Last Date Observed: 1977-06-07	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-06-07	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBS DURING SUMMER 1977 STUDY; ESTIMATED THREE BREEDING PAIRS.

PLSS: T14S, R20E, Sec. 22 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3645946 E700809	Latitude/Longitude: 32.93336 / -114.85219	Elevation (feet): 620

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:
BLM80S0013 BLM - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR TOXOSTOMA DORSALE, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN". 1980-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06550
Key Quad: Ogilby (3211477)
Occurrence Number: 35

EO Index: 24533
Element Code: ABPBK06100
Occurrence Last Updated: 1989-08-10

Scientific Name: *Toxostoma lecontei*

Common Name: Le Conte's thrasher

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G4
 State: S3

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_LC-Least Concern
 NABCI_RWL-Red Watch List
 USFWS_BCC-Birds of Conservation Concern

General Habitat:

DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.

Micro Habitat:

COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.

Last Date Observed: 1896-03-16
Last Survey Date: 1896-03-16
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 OGILBY.
Detailed Location:

Ecological:
Threats:

General:
 CAS SPECIMEN #55196.

PLSS: T15S, R20E, Sec. 35, NW (S)
UTM: Zone-11 N3633124 E702138

Accuracy: 1 mile
Latitude/Longitude: 32.81754 / -114.84079

Area (acres): 0
Elevation (feet): 360

County Summary:
 Imperial

Quad Summary:
 Ogilby (3211477)

Sources:
 BLM80R0014 BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06541	EO Index: 24493
Key Quad: Hedges (3211487)	Element Code: ABPBK06100
Occurrence Number: 88	Occurrence Last Updated: 1989-08-10

Scientific Name: <i>Toxostoma lecontei</i>	Common Name: Le Conte's thrasher
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	NABCI_RWL-Red Watch List
	USFWS_BCC-Birds of Conservation Concern

General Habitat: DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.	Micro Habitat: COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND.
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Last Date Observed: 1977-06-07	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1977-06-07	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
INDIAN WASH, AT HWY S-34, APPROX 12.5 MI N OF I-80 AND 12 MILES S OF HWY 78.

Detailed Location:

Ecological:

Threats:

General:

NESTING BIRDS OBS DURING SUMMER 1977 STUDY; ESTIMATED ONE BREEDING PAIR.

PLSS: T14S, R20E, Sec. 22, NE (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3645946 E700809	Latitude/Longitude: 32.93336 / -114.85219	Elevation (feet): 620

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:

BLM80R0014 BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33092	EO Index: 3603
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 13	Occurrence Last Updated: 2007-04-03

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"CARGO MINE," IN JACKSON GULCH, ABOUT 3.5 MILES ENE OF OGILBY, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
THIS MINE IS PROTECTED BY A STURDY, HIGH CHAIN LINK FENCE, A LOCKED GATE, AND SIGNS. INDIVIDUALS WERE OBSERVED ROOSING ON 30 APR 1992. 1993-1999 NUMBERS REFER TO OUTFLIGHT COUNTS. 650-750 OUTFLIGHT COUNT (OFC) WINTER 1990/91.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE. THIS POPULATION EXPERIENCES FLUCTUATIONS, BASED ON ACTIONS IN NEARBY MINES.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
132 INDIVS APRIL, 260 OFC MAY, 152 OFC JUNE, 636 OFC DEC 1992. 109 26 JUNE; 207 3 JULY; 1462 10 DEC 1993. 764 WINTER 1994. 222 JUL 1995. 1289 JAN, 182 JUL 1996. 266 JAN, 195 JUN 1997. 221 JAN, 183 JUN 1998. 1292 JAN 1999.

PLSS: T15S, R21E, Sec. 20, SE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3635139 E707835	Latitude/Longitude: 32.83464 / -114.77952	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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- Sources:**
- BRO92F0019 BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-04-30
 - BRO92R0002 BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
 - BRO92R0003 BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
 - BRO93F0045 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-07-03
 - BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33093	EO Index: 3604
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 14	Occurrence Last Updated: 1995-04-04

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1993-12-14	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-12-14	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"NE OF CARGO MINE," VICINITY OF JACKSON GULCH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
1 ADULT OBSERVED ROOSTING.

PLSS: T15S, R21E (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3635466 E708291	Latitude/Longitude: 32.83750 / -114.77458	Elevation (feet): 880

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
BRO93F0046 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-12-14



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33094	EO Index: 3602
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 15	Occurrence Last Updated: 1995-04-12

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1992-05-04	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1992-05-04	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"SOUTH OF CARGO MINE," VICINITY OF JACKSON GULCH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
3 INDIVIDUALS OBSERVED ROOSTING & 54 COUNTED ENTERING & EXITING THE MINE ON 4 MAY 1992. EUMOPS PEROTIS HEARD FLYING OVER.

PLSS: T15S, R21E (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3634743 E707905	Latitude/Longitude: 32.83105 / -114.77886	Elevation (feet): 560

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
BRO92F0020 BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-05-04



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33095	EO Index: 3605
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 16	Occurrence Last Updated: 2007-04-03

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1996-07-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1996-07-03	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"PADRE MADRE CLAIM," SOUTH OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
ONE PORTION OF THIS ROOST IS LOCATED OUTSIDE THE FENCE AND ONE PART IS LOCATED INSIDE THE FENCE. INCLUDES SOUTH OF MINE IN INCLINE ON TOP OF HILL.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
ROOST SITE. OUTSIDE FENCE: 10 OBSERVED 2 MAY, 10 OBSERVED 18 JUN 1992; INSIDE FENCE: 8 OBSERVED ON 2 MAY, 6 OBSERVED ON 18 JUN 1992. OUTFLIGHT COUNT OF 55 + 25 ON 3 JUL 1996.

PLSS: T15S, R21E, Sec. 19, NE (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3635878 E706624	Latitude/Longitude: 32.84153 / -114.79229	Elevation (feet): 600

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BRO92F0021	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-05-02
BRO92F0022	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-05-02
BRO92R0002	BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
BRO92R0003	BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
BRO99U0001	BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33096	EO Index: 3606	
Key Quad: Ogilby (3211477)	Element Code: AMACB01010	
Occurrence Number: 17	Occurrence Last Updated: 2007-03-05	

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 2006-01-15	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-01-15	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"GUADALUPE MINE," IN THE VICINITY OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
2006 OBSERVATION FROM SHAFT OMR #13346.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
10 FEMALES AND 2 MALES OBSERVED ROOSTING ON 15 DECEMBER 1992; 10 OF THE BATS HAD BEEN PREVIOUSLY BANDED AND ROOSTED IN THE AMERICAN BOY MINE, WHICH IS NOW AN ACTIVE MINING SITE. GUANO DETECTED DURING SURVEY ON 15 JAN 2006.

PLSS: T15S, R21E, Sec. 16, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3637459 E709123	Latitude/Longitude: 32.85530 / -114.76525	Elevation (feet): 880

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO92F0023	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-12-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 33097	EO Index: 3607
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 18	Occurrence Last Updated: 2011-01-18

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1992-10-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1992-10-12	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
"TYBO MINE," VICINITY OF THE AMERICAN GIRL WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
INCLUDES LOCALITY "AMERICAN GIRL MINE."

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREATS INCLUDE RENEWED MINING, HUMAN (RECREATIONAL) DISTURBANCE, AND MINE CLOSURE FOR HAZARD ABATEMENT.

General:
HISTORIC SITE. 150-200 OBS BY P. BROWN 1977. POPULATION HAS LIKELY DECREASED DUE TO RENEWED MINING IN THE AREA AND REMOVAL OF WASH VEGETATION. 4 INDIVIDUALS OBSERVED ROOSTING ON 12 OCTOBER 1992.

PLSS: T15S, R21E (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3637467 E707137	Latitude/Longitude: 32.85575 / -114.78645	Elevation (feet): 740

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

BLM80R0014	BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX
BRO92F0024	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1992-12-10
BRO93U0001	BROWN, P.E., R.D. BERRY & C. BROWN - ABSTRACT OF A PAPER PRESENTED AT THE CALIFORNIA MINING ASSOCIATION ANNUAL MEETING IN MONTEREY, MARCH 10, 1993. 1993-03-10



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26333	EO Index: 40808
Key Quad: Hedges (3211487)	Element Code: AMACB01010
Occurrence Number: 26	Occurrence Last Updated: 2007-04-03

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
MESQUITE ADIT, TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
GATED MINE ENTRANCE. LOCATED TO W OF THE GOLDEN RING. INCLUDES QUEEN INCLINE & MESQUITE MINE. ABOUT 80 OBS 1989. 12 CAPT/BANDED (C/B) FEB, 49 OBS JUL, 44 IN DEC 1990. 2 C/B MAY, 12 CAPT, 8 OBS DEC 1991. 3 OBS APR/MAY 1992.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
POSSIBLE THREAT OF MINING - SITE IS UNDER CLAIM TO A MINING COMPANY, HUMAN DISTURBANCE, CLOSURE FOR HAZARD ABATEMENT.

General:
3 BANDED BATS CAPT JUN, 15 C/B DEC 1992. ~5 CAPT JUN, 2 IN JUL, 1 OBS DEC '93.1 OBS MAR, OBS IN JUN, 27 IN DEC '94. OBS MAR, 18 IN 6 JUL '95. 13 OBS IN JAN, OBS IN JUL '96.15 OBS JAN, OBS JUN '97. 13 OBS JAN, OBS JUN '98. 27 OBS JAN '99.

PLSS: T15S, R20E, Sec. 01, SW (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640372 E703297	Latitude/Longitude: 32.88266 / -114.82683	Elevation (feet): 700

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

BRO92F0047	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-04-30
BRO92R0002	BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
BRO92R0003	BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
BRO93F0073	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-06-28
BRO99U0001	BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26334	EO Index: 40809
Key Quad: Hedges (3211487)	Element Code: AMACB01010
Occurrence Number: 27	Occurrence Last Updated: 2011-08-16

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1999-01-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-01-XX	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
(GOLDEN) QUEEN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
1990 OBS MATERNITY ROOST. MESQUITE, GOLDEN KING & CROWN MINES & EAST & WEST SOVERIGN PROSPECT INCLUDED HERE. OBS EXITING INCLINE & SHAFT IN 1989 OBS & IN JUN 1992. 125 OBS AUG 1989. OBS FEB/JUL/DEC 1990. 2 OBS DEC 1991.

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
RENEWED MINING, HUMAN DISTURBANCE, CLOSURE FOR HAZARD ABATEMENT.

General:
14 BANDED, 178 OBS MAY/JUN, 208 OBS DEC 1992. 40 OBS 29 JUN, 5 OBS JUL, 295 OBS DEC, 10 OBS DEC '93. OBS IN MAR/JUN/JUL/DEC '94. OBS MAR/JUL '95. 6 OBS JUN, 147 JAN/JUN/JUL '96. OBS JAN/JUN '97. 68 OBS JAN, 50 OBS JUN 1998. 190 OBS JAN '99.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640600 E703890	Latitude/Longitude: 32.88460 / -114.82044	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

BRO92F0048	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-26
BRO92F0049	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-20
BRO92F0050	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-19
BRO92F0051	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-06-20
BRO92F0052	BROWN, P. - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1992-05-01
BRO92R0002	BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
BRO92R0003	BROWN, P.E. - A SPRING SURVEY FOR BATS OF THE AMERICAN GIRL CANYON PROJECT AND THE ORO CRUZ PROJECT, CARGO MUCHACHO MOUNTAINS, IMPERIAL COUNTY, CALIFORNIA. 1992-06-05
BRO93F0047	BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS (ROOST SITE) 1993-01-23
BRO93F0068	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-12-11
BRO93F0069	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-07-05
BRO93F0070	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-06-29
BRO93F0071	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-07-07
BRO93F0072	BROWN & BERRY BIOLOGICAL - FIELD SURVEY FORM FOR MACROTUS CALIFORNICUS 1993-12-13
BRO98U0002	BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
BRO99U0002	BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 66655	EO Index: 68474
Key Quad: Hedges (3211487)	Element Code: AMACB01010
Occurrence Number: 31	Occurrence Last Updated: 2007-04-20

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat:	Micro Habitat:
DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.

Last Date Observed: 2006-01-25	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-01-25	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MUCHACHO MOUNTAINS, ABOUT 1.4 MI NORTH OF HEDGES.

Detailed Location:
SHAFT & ADIT OMR #13313 & 13316 AND DECLINE OMR #13320.

Ecological:
MATERNITY COLONY FOR MACROTUS CALIFORNICUS.

Threats:

General:
45 INDIVIDUALS OBSERVED IN A SIDE DRIFT OFF THE NORTHWEST BRANCH, 4 FEMALES CAPTURED, BANDED & RELEASED INSIDE THE MINE ON 25 JAN 2006.

PLSS: T14S, R20E, Sec. 36, W (S)	Accuracy: non-specific area	Area (acres): 156
UTM: Zone-11 N3642270 E703327	Latitude/Longitude: 32.89976 / -114.82608	Elevation (feet): 780

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO06R0002	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68784
Key Quad: Ogilby (3211477)
Occurrence Number: 40

EO Index: 69287
Element Code: AMACB01010
Occurrence Last Updated: 2007-04-10

Scientific Name: *Macrotus californicus*

Common Name: California leaf-nosed bat

Listing Status:
Federal: None
State: None
CNDDDB Element Ranks:
Global: G4
State: S3

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_LC-Least Concern
 WBWG_H-High Priority

General Habitat:
 DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.

Micro Habitat:
 NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.

Last Date Observed: 1999-01-17
Last Survey Date: 1999-01-17
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 AMERICAN BOY MINE. CARGO MUCHACHO MOUNTAINS, TUMCO WASH.

Detailed Location:

Ecological:

Threats:
General:
 MAINLY WINTER ROOST PRIOR TO CLOSURE IN 1992. 2 INDIVIDUALS OBSERVED EMERGING FROM ADIT IN JUN 1997. 1 INDIVIDUAL & GUANO OBSERVED IN JAN 1998. OUTFLIGHT COUNT OF 6 INDIVIDUALS AND GUANO OBSERVED 17 JAN 1999.

PLSS: T15S, R21E, Sec. 16, NW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3638222 E708635	Latitude/Longitude: 32.86227 / -114.77028	Elevation (feet): 740

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

- Sources:**
- BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06550	EO Index: 82343
Key Quad: Ogilby (3211477)	Element Code: AMACB01010
Occurrence Number: 46	Occurrence Last Updated: 2011-01-18

Scientific Name: <i>Macrotus californicus</i>	Common Name: California leaf-nosed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G4	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	WBWG_H-High Priority

General Habitat: DESERT RIPARIAN, DESERT WASH, DESERT SCRUB, DESERT SUCCULENT SCRUB, ALKALI SCRUB AND PALM OASIS HABITATS.	Micro Habitat: NEEDS ROCKY, RUGGED TERRAIN WITH MINES OR CAVES FOR ROOSTING.
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Last Date Observed: 1944-11-23	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1944-11-23	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
OGILBY.
Detailed Location:

Ecological:
Threats:

General:
2 FEMALES COLLECTED 30 MAY 1943. 4 MALES COLLECTED 24 NOV 1944 BY D.G. CONSTANTINE (LACM #11652-11657).

PLSS: T15S, R20E, Sec. 35 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633124 E702138	Latitude/Longitude: 32.81754 / -114.84079	Elevation (feet): 360

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

BLM80R0014	BUREAU OF LAND MANAGEMENT - THE CALIFORNIA DESERT PLAN 1980-02-XX
CON44S0001	CONSTANTINE, D.G. - LACM RECORDS FOR MACROTUS CALIFORNICUS RECORDS FROM OGILBY 1944-11-24



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 68363	EO Index: 68553
Key Quad: Hedges (3211487)	Element Code: AMACC01050
Occurrence Number: 10	Occurrence Last Updated: 2007-03-07

Scientific Name: <i>Myotis velifer</i>	Common Name: cave myotis
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G5	IUCN_LC-Least Concern
State: S1	WBWG_M-Medium Priority

General Habitat: LOWLANDS OF THE COLORADO RIVER AND ADJACENT MOUNTAIN RANGES.	Micro Habitat: REQUIRE CAVES OR MINES FOR ROOSTING.
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Last Date Observed: 2006-06-05	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-05	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MUCHACHO MOUNTAINS, ABOUT 1.5 MI NORTH OF HEDGES.

Detailed Location:
SHAFT OMR 13328 IN NW 1/4 OF SECTION 36, NEAR THE BASE OF A WEST FACING HILL. SHAFT WAS 10 X 10 X 50 FT DEEP WITH UNSTABLE LOOSE ROCK IN THE TOP 10 FEET.

Ecological:
Threats:

General:
1 BAT OBSERVED EXITING THE SHAFT AFTER DARK 5 JUN 2005. BAT APPEARED TO BE MYOTIS VELIFER BASED ON A COMPARISON OF OBSERVATION TIME WITH TIME OF ACOUSTIC RECORDS BUT IDENTIFICATION IS NOT CONFIRMED. M. VELIFER IS RARE HERE.

PLSS: T14S, R20E, Sec. 36, NW (S)	Accuracy: non-specific area	Area (acres): 151
UTM: Zone-11 N3643058 E703316	Latitude/Longitude: 32.90686 / -114.82603	Elevation (feet): 820

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
BRO06R0002 BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 91986	EO Index: 93061
Key Quad: Hedges (3211487)	Element Code: AMACC08010
Occurrence Number: 252	Occurrence Last Updated: 2014-04-07

Scientific Name: <i>Corynorhinus townsendii</i>	Common Name: Townsend's big-eared bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G3G4	CDFW_SSC-Species of Special Concern
State: S2	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat:
THROUGHOUT CALIFORNIA IN A WIDE VARIETY OF HABITATS. MOST COMMON IN MESIC SITES.

Micro Habitat:
ROOSTS IN THE OPEN, HANGING FROM WALLS AND CEILINGS. ROOSTING SITES LIMITING. EXTREMELY SENSITIVE TO HUMAN DISTURBANCE.

Last Date Observed: 1947-05-28	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1947-05-28	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 1.4 MI E OF OGILBY ROAD AT GOLD ROCK RANCH ROAD AND ABOUT 3.2 MI NW OF PASADENA PEAK.

Detailed Location:
MAPPED TO LOCALITY STATED AS "TUMCO MINE, 5 MI N, 2 MI E OGILBY."

Ecological:

Threats:

General:

1 MALE COLLECTED ON 28 MAY 1947 (MVZ #106720) BY S. BENSON.

PLSS: T15S, R20E, Sec. 01, SE (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3640199 E704351	Latitude/Longitude: 32.88090 / -114.81559	Elevation (feet): 830

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:

BEN47S0006 BENSON, S. - MVZ #106720 1947-05-28



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 66500	EO Index: 18838	
Key Quad: Hedges (3211487)	Element Code: AMACC10010	
Occurrence Number: 21	Occurrence Last Updated: 2011-08-31	

Scientific Name: <i>Antrozous pallidus</i>	Common Name: pallid bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.	Micro Habitat: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.
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Last Date Observed: 1998-06-13	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1998-06-13	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
INCLUDES QUEEN INCLINE, TUMCO WASH, MESQUITE ADIT, TUMCO WASH, CROWN, QUEEN, W & E SOVEREIGN & TUMCO MINE. OBS FLYING IN CAVE IN 1992. MATERNITY COLONY OBS IN 1998.

Ecological:
HABITAT SURROUNDING ROOST CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
THREATENED BY A PROPOSAL TO RENEW MINING.

General:
1 M COLL 17 JUL 1958 (MVZ #122877). 14 OBS AUG 1989. 4 JUV OBS JUN 1992. 5 IN CAVE, 87 IN OUTFLIGHT COUNT MIXED W/ MACROTUS, 25 CAPT 26 JUN-1 JUL 1993. OBS IN MAR/JUN 1994, MAR 1995, JUL 1996, JUN 1997, & JUN 1998.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3640196 E703630	Latitude/Longitude: 32.88100 / -114.82330	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477), Hedges (3211487)
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- Sources:**
- BRO92R0002 BROWN-BERRY BIOLOGICAL CONSULTING - A SUMMER BASELINE SURVEY FOR THE CALIFORNIA LEAF-NOSED BAT IN THE CARGO MUCHACHO MOUNTAINS. 1992-10-02
 - BRO93F0003 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR ANTROZOUS PALLIDUS (ROOST SITE) 1993-06-27
 - BRO93F0004 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR ANTROZOUS PALLIDUS (ROOST SITE) 1993-06-26
 - BRO98U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1998-05-04
 - BRO99U0001 BROWN-BERRY BIOLOGICAL CONSULTING - BAT CENSUS OF CARGO MUCHACHO MINES, AUGUST 1989-JANUARY 1999 1999-01-XX
 - BRO99U0002 BROWN-BERRY BIOLOGICAL CONSULTING - REGARDING: RESULTS OF SUMMER AND WINTER BASELINE MONITORING FOR BATS IN THE VICINITY OF THE ORO CRUZ PROJECT AND THE CARGO MINE, CARGO MUCHACHO MOUNTAINS, CA. 1999-02-08
 - MAN04S0028 MAMMAL NETWORKED INFORMATION SYSTEM (MANIS) - PRINTOUT OF ANTROZOUS PALLIDUS SPECIMEN RECORDS FROM MANIS. INCLUDES RECORDS FROM MVZ, CAS, KU, UWBM, UMNH, LACM, MSB, FMNH, TTU, MSU. 2004-12-09



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 66655	EO Index: 66798
Key Quad: Hedges (3211487)	Element Code: AMACC10010
Occurrence Number: 317	Occurrence Last Updated: 2007-03-12

Scientific Name: <i>Antrozous pallidus</i>	Common Name: pallid bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5	CDFW_SSC-Species of Special Concern
State: S3	IUCN_LC-Least Concern
	USFS_S-Sensitive
	WBWG_H-High Priority

General Habitat: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS AND FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.	Micro Habitat: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.
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Last Date Observed: 2006-06-05	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2006-06-05	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
MINES IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
SHAFT & ADIT OMR #13313 & 13316 AND DECLINE OMR #13320.

Ecological:
NIGHT ROOST FOR ANTROZOUS PALLIDUS.

Threats:
General:
6 INDIVIDUALS OBSERVED NIGHT ROOSTING, INCLUDING 1 WITH A PUP ATTACHED, OBSERVED 5 JUN 2006.

PLSS: T14S, R20E, Sec. 36, W (S)	Accuracy: non-specific area	Area (acres): 156
UTM: Zone-11 N3642270 E703327	Latitude/Longitude: 32.89976 / -114.82608	Elevation (feet): 780

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:

BRO06R0001	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-02-04
BRO06R0002	BROWN, P. (BROWN-BERRY BIOLOGICAL CONSULTING) - CALIFORNIA STATE LANDS COMMISSION MINE SITE DESCRIPTIONS AND BAT SURVEY RESULTS 2006-06-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26366	EO Index: 4093
Key Quad: Ogilby (3211477)	Element Code: AMACD02011
Occurrence Number: 3	Occurrence Last Updated: 1995-02-08

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1993-07-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-07-03	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
CARGO MINE, IN JACKSON GULCH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
MINE SITE IS FENCED. MASTIFF BAT HEARD FLYING OVERHEAD.

PLSS: T15S, R21E (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3635161 E707853	Latitude/Longitude: 32.83483 / -114.77933	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
BRO93F0023 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-07-03



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 26334	EO Index: 4095
Key Quad: Hedges (3211487)	Element Code: AMACD02011
Occurrence Number: 4	Occurrence Last Updated: 1999-02-03

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G5T4	WBWG_H-High Priority
State: S3S4	

General Habitat:	Micro Habitat:
MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.

Last Date Observed: 1993-06-28	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-06-28	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
 QUEEN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
 SITE: LARGE INCLINE ENTRANCE WITH A SHAFT TO THE SOUTHWEST.

Ecological:
 HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:
General:
 TWO MASTIFF BATS HEARD FLYING OVERHEAD.

PLSS: T15S, R20E, Sec. 01 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3640600 E703890	Latitude/Longitude: 32.88460 / -114.82044	Elevation (feet): 720

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
 BRO93F0024 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-06-28



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 26365	EO Index: 4094	
Key Quad: Hedges (3211487)	Element Code: AMACD02011	
Occurrence Number: 5	Occurrence Last Updated: 1995-02-08	

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1993-12-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1993-12-11	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
CROWN MINE, IN TUMCO WASH, IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

Ecological:
HABITAT CONSISTS OF CREOSOTE BUSH SCRUB IN THE LOWER SONORAN LIFE ZONE.

Threats:

General:
MASTIFF BATS WERE HEARD FLYING OVER THE SITE.

PLSS: T15S, R20E, Sec. 12 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3639579 E704305	Latitude/Longitude: 32.87532 / -114.81623	Elevation (feet): 680

County Summary: Imperial	Quad Summary: Ogilby (3211477), Hedges (3211487)
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Sources:
BRO93F0025 BROWN-BERRY BIOLOGICAL CONSULTING - FIELD SURVEY FORM FOR EUMOPS PEROTIS (CALIFORNICUS) 1993-12-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68739	EO Index: 69217
Key Quad: Hedges (3211487)	Element Code: AMACD02011
Occurrence Number: 199	Occurrence Last Updated: 2007-03-28

Scientific Name: <i>Eumops perotis californicus</i>	Common Name: western mastiff bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G5T4	CDFW_SSC-Species of Special Concern
State: S3S4	WBWG_H-High Priority

General Habitat: MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL, ETC.	Micro Habitat: ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES AND TUNNELS.
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Last Date Observed: 1997-06-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1997-06-11	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, VICINITY OF INDIAN WASH.

Detailed Location:
MAPPED ACCORDING TO T-R-S DATA PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "CHEMGOLD IMPERIAL PROJECT SITE."

Ecological:
Threats:

General:
INDIVIDUAL(S) DETECTED ACOUSTICALLY (2 AUDIBLE PASSES OVER THE PROPERTY) ON 11 JUN 1997.

PLSS: T13S, R21E, Sec. 32 (S)	Accuracy: non-specific area	Area (acres): 4,252
UTM: Zone-11 N3652207 E706316	Latitude/Longitude: 32.98877 / -114.79191	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487), Quartz Peak (3311417)
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Sources:
BRO97R0001 BROWN, P.E. (BROWN-BERRY BIOLOGICAL CONSULTING) - REGARDING: BAT SURVEY OF THE CHEMGOLD IMPERIAL PROJECT SITE. 1997-07-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 68739	EO Index: 69218
Key Quad: Hedges (3211487)	Element Code: AMACD04010
Occurrence Number: 38	Occurrence Last Updated: 2007-03-28

Scientific Name: <i>Nyctinomops femorosaccus</i>	Common Name: pocketed free-tailed bat
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: CDFW_SSC-Species of Special Concern
CNDDB Element Ranks:	IUCN_LC-Least Concern
Global: G4	WBWG_M-Medium Priority
State: S3	

General Habitat: VARIETY OF ARID AREAS IN SOUTHERN CALIFORNIA; PINE-JUNIPER WOODLANDS, DESERT SCRUB, PALM OASIS, DESERT WASH, DESERT RIPARIAN, ETC.	Micro Habitat: ROCKY AREAS WITH HIGH CLIFFS.
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Last Date Observed: 1997-06-11	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1997-06-11	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, VICINITY OF INDIAN WASH.

Detailed Location:
MAPPED ACCORDING TO T-R-S DATA PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "CHEMGOLD IMPERIAL PROJECT SITE."

Ecological:
Threats:

General:
INDIVIDUAL(S) DETECTED ACOUSTICALLY ON 3 OCCASIONS ON 11 JUN 1997.

PLSS: T13S, R21E, Sec. 32 (S)	Accuracy: non-specific area	Area (acres): 4,252
UTM: Zone-11 N3652207 E706316	Latitude/Longitude: 32.98877 / -114.79191	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487), Quartz Peak (3311417)
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Sources:
BRO97R0001 BROWN, P.E. (BROWN-BERRY BIOLOGICAL CONSULTING) - REGARDING: BAT SURVEY OF THE CHEMGOLD IMPERIAL PROJECT SITE. 1997-07-11



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 72878
Key Quad: Clyde (3211488)
Occurrence Number: 150

EO Index: 73765
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-29

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status:
Federal: Threatened
State: Threatened
CNDDB Element Ranks:
Global: G3
State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27
Last Survey Date: 2005-04-27
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Good
Trend: Unknown

Location:

ALONG PIPELINE & WALKER WAY NORTH & SOUTH OF INDIAN WASH, 3.0 - 4.5 MI NW OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED TO PROVIDED COORDINATES AND MAPS. SE SEC 20, W SEC 28, NE SEC 33, SW SEC 34, AND NW SEC 3.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, PIPELINE CONSTRUCTION, & DEVELOPMENT.

General:

3-4 APR 2001: 8 TORTOISES, 2 CARCASSES, 1 SCUTE, 8 BURROWS (1 OLD, 1 ABANDONED), & 7 SCAT SITES (2 OLD). 21 MAY-10 JUN 2002: 5 TORTOISES (1 IN BURROW, ALL HEALTHY). 18-27 APR 2005: 5 TORTOISES, 27 BURROWS, 6 PALLET BURROWS, & 8 SCAT SITES.

PLSS: T14S, R20E, Sec. 28 (S)
UTM: Zone-11 N3643986 E698390

Accuracy: specific area
Latitude/Longitude: 32.91613 / -114.87847

Area (acres): 230
Elevation (feet): 550

County Summary:

Imperial

Quad Summary:

Hedges (3211487), Clyde (3211488)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

GER02F0002	GERMAN, E. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-29
GOE02F0008	GOETTEE, P. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-06-07
GOE02F0009	GOETTEE, P. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-30
GOE02F0012	GOETTEE, R. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-06-10
GRA02F0003	GRANT, C. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2002-05-21
MAL01F0004	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0005	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0006	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0007	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0008	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0011	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0012	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0013	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0168	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0171	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0172	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0173	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0174	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0175	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0176	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0177	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0178	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0179	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0195	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0201	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
MAL01F0209	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0210	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
MAL01F0211	MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-03
TET05R0001	TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 72990	EO Index: 73903
Key Quad: Hedges (3211487)	Element Code: ARAAF01012
Occurrence Number: 168	Occurrence Last Updated: 2008-11-24

Scientific Name: <i>Gopherus agassizii</i>	Common Name: desert tortoise
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: Threatened	Other Lists: IUCN_VU-Vulnerable
CNDDB Element Ranks:	
Global: G3	
State: S2S3	

General Habitat:	Micro Habitat:
MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-01-23	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2005-01-23	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
WEST SIDE OF INDIAN PASS RD, 2.22 MI NE OF THE INTERSECTION OF HWY S34 & INDIAN PASS RD.

Detailed Location:

Ecological:
DESERT PAVEMENT WITH NUMEROUS SMALL WASHES DOMINATED BY IRONWOOD. SURROUNDING AREA IS USED FOR ORVS, RECREATION AND HUNTING.

Threats:
ORVS.

General:
1 JUVENILE (6" LONG) OBSERVED AT BURROW SITE ON 23 JAN 2005.

PLSS: T14S, R20E, Sec. 11 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3648684 E702075	Latitude/Longitude: 32.95780 / -114.83806	Elevation (feet): 685

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
STE05F0004 STEWARD, D. (U.S. BUREAU OF LAND MANAGEMENT-EL CENTRO) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2005-01-23



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 73129

EO Index: 74060

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 219

Occurrence Last Updated: 2011-11-28

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-04-27

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ABOUT 0.7 MI W OF HEDGES ON EAST SIDE OF OGILBY RD, AND ABOUT 1.2 MI E OF GOLD ROCK RANCH.

Detailed Location:

SE QUARTER OF SEC 3, SW QUARTER OF SEC 2, AND NW QUARTER OF SEC 11. MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCLUDED BURROBRUSH, BIG GALLETIA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDED ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

10 INCH FEMALE AND 210 MM MALE (BOTH IN A BURROWS), 2 ACTIVE BURROWS, AND 3 FRESH SCAT SITES OBSERVED ON 4 APR 2001. 2 BURROWS AND 2 SCAT SITES OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 03, SE (S)

Accuracy: specific area

Area (acres): 29

UTM: Zone-11 N3640253 E701613

Latitude/Longitude: 32.88189 / -114.84484

Elevation (feet): 550

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

- MAL01F0002 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0003 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0181 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0182 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0183 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- MAL01F0184 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04
- TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 73130

EO Index: 74061

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 220

Occurrence Last Updated: 2011-10-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

INDIAN WASH, 0.25 MI SSW OF WHERE HWY 34 CROSSES THE WASH, NNW OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT WITH A MIX OF CREOSOTE AND AMBROSIA DUMOSA NEAR POWER LINES AND A ROAD.

Threats:

POTENTIAL THREATS INCLUDE ORV AND ROAD TRAFFIC.

General:

10" FEMALE TORTOISE, MALE CARCASS (LESS THAN 5 YEARS DEAD), 3 SCATS, AND A BURROW OBSERVED ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 22 (S)

Accuracy: specific area

Area (acres): 15

UTM: Zone-11 N3645181 E700920

Latitude/Longitude: 32.92644 / -114.85117

Elevation (feet): 615

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

- MAL01F0009 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
- MAL01F0192 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
- MAL01F0194 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 73131

EO Index: 74062

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 221

Occurrence Last Updated: 2011-10-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.9 MILE NE OF HWY 34 AT INDIAN PASS RD, NNW OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

NEAR CENTER OF SEC 15. MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE ROAD TRAFFIC AND OFF-HIGHWAY VEHICLES.

General:

1 TORTOISE (8-9" LONG) IN BURROW AND 6 OTHER BURROWS (AT LEAST 2 ACTIVE) OBSERVED ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 15 (S)

Accuracy: specific area

Area (acres): 22

UTM: Zone-11 N3647577 E700243

Latitude/Longitude: 32.94817 / -114.85788

Elevation (feet): 630

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MAL01F0010	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0188	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0189	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0190	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06
MAL01F0191	MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 82148	EO Index: 83131
Key Quad: Ogilby (3211477)	Element Code: ARAAF01012
Occurrence Number: 294	Occurrence Last Updated: 2011-04-04

Scientific Name: <i>Gopherus agassizii</i>	Common Name: desert tortoise
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: Threatened	Other Lists: IUCN_VU-Vulnerable
CNDDB Element Ranks:	
Global: G3	
State: S2S3	

General Habitat: MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	Micro Habitat: REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.
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Last Date Observed: 1988-03-19	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1988-03-19	Occurrence Rank: Unknown
Owner/Manager: BLM, PVT-EVERGLADE LLC	Trend: Unknown
Presence: Presumed Extant	

Location:
AMERICAN GIRL WASH NEAR OBREGON, IN THE CARGO MUCHACHO MOUNTAINS, ABOUT 9 MI NW OF ARAZ JUNCTION.

Detailed Location:
MAPPED TO PROVIDED MAP.

Ecological:
HABITAT CONSISTED OF A LOW VALLEY BETWEEN SEVERAL BARREN LOW HILLS. PALLET WAS OBSERVED UNDER A LARGE FRANSERIA SHRUB.

Threats:
POSSIBLY THREATENED BY EARTH MOVING ACTIVITIES FROM MINING OPERATIONS.

General:
1 ADULT MALE TORTOISE (>25 YEARS OLD, 258 MM MCL) OBS WALKING NEAR PALLET BURROW 20 MAR 1988. 8 OF 13 TRANSECTS IN GENERAL AREA FOUND BURROWS OR PALLET BURROWS & LARGE AMOUNTS OF TORTOISE SCAT WAS FOUND AT THE AMERICAN BOY MINE TUNNEL.

PLSS: T15S, R21E, Sec. 17 (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3637866 E707119	Latitude/Longitude: 32.85935 / -114.78655	Elevation (feet): 660

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
MED88R0001 MEDICA, P. - SURVEY OF THE SOUTHWESTERN PORTION OF THE CARGO MUCHACHO MOUNTAINS FOR THE DESERT TORTOISE IN THE VICINITY OF THE AMERICAN GIRL MINE. 1988-03-20



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 82786

EO Index: 83784

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 467

Occurrence Last Updated: 2011-07-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.9 MI WSW OF LA COLORADO MINE, 2 MI NW OF HEDGES, NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 17.5 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN DESERT WASH WOODLAND WITH A MIX OF IRONWOOD AND PALO VERDE NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:

2 BURROWS WITH 4 OLD SCATS OBSERVED 6 APR 2001.

PLSS: T14S, R20E, Sec. 35, NW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3643007 E701447

Latitude/Longitude: 32.90674 / -114.84601

Elevation (feet): 620

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MAL01F0193 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 82788

EO Index: 83785

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 468

Occurrence Last Updated: 2011-07-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

6 MI NNW OF HEDGES, JUST NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 21 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:

A 9" LONG MALE CARCASS RECENTLY KILLED OBSERVED WITH BURROW AND PALLETS BURROWS, AND ANOTHER ACTIVE BURROW OBSERVED SEPARATELY, BOTH ON 6 APR 2001.

PLSS: T14S, R20E, Sec. 10, NW (S)

Accuracy: specific area

Area (acres): 8

UTM: Zone-11 N3649143 E699938

Latitude/Longitude: 32.96234 / -114.86080

Elevation (feet): 700

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MAL01F0185 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06

MAL01F0186 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 82790

EO Index: 83786

Key Quad: Hedges (3211487)

Element Code: ARAAF01012

Occurrence Number: 469

Occurrence Last Updated: 2011-07-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened

Rare Plant Rank:

State: Threatened

Other Lists: IUCN_VU-Vulnerable

CNDDB Element Ranks: **Global:** G3

State: S2S3

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-06

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-04-06

Occurrence Rank: Excellent

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

5.5 MI NNW OF HEDGES, JUST NW OF CARGO MUCHACHO MOUNTAINS, ABOUT 20.5 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES FOR BURROW WITH SCAT.

Ecological:

HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT NEAR POWER LINES.

Threats:

POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:

BURROW WITH SCAT OBSERVED ON 6 APR 2001. OLD SCAT ALSO FOUND NEARBY TO THE NNW ON SAME DATE.

PLSS: T14S, R20E, Sec. 15, N (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3648110 E700475

Latitude/Longitude: 32.95293 / -114.85529

Elevation (feet): 650

County Summary:

Quad Summary:

Imperial

Hedges (3211487)

Sources:

MAL01F0187 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06

MAL01F0199 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 84033
Key Quad: Ogilby (3211477)
Occurrence Number: 876

EO Index: 85069
Element Code: ARAAF01012
Occurrence Last Updated: 2011-10-20

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened
 State: Threatened
CNDDB Element Ranks: **Global:** G3
 State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-04-27

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

1 MI SSW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 15 MI NW OF YUMA.

Detailed Location:

MAPPED TO PROVIDED COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

3 TORTOISE BURROWS OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 14, SW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3637487 E702200

Latitude/Longitude: 32.85686 / -114.83917

Elevation (feet): 470

County Summary:

Quad Summary:

Imperial

Ogilby (3211477)

Sources:

TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 84034
Key Quad: Ogilby (3211477)
Occurrence Number: 877

EO Index: 85070
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-21

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status: **Federal:** Threatened
 State: Threatened
CNDDB Element Ranks: **Global:** G3
 State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2005-04-27

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2005-04-27

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

1 MI SSW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 15 MI NW OF YUMA.

Detailed Location:

MAPPED TO CARCASS COORDINATES.

Ecological:

HABITAT CONSISTED OF CREOSOTE SCRUB WITH PATCHES OF DESERT WASH WOODLAND. DOMINANT SPECIES INCL. BURROBRUSH, BIG GALLETA, IRONWOOD, PALO VERDE, CHEESEWEED, BOXTHORN, AFRICAN MUSTARD, MEDITERRANEAN GRASS, & PLANTAIN.

Threats:

POTENTIAL THREATS INCLUDE ROAD, PEDESTRIAN, & OFF-HIGHWAY TRAFFIC, MILITARY OPERATIONS, FIREARMS USAGE, & DEVELOPMENT.

General:

4 PIECES OF SCAT OBSERVED 4 APR 2001. TORTOISE CARCASS OBSERVED BETWEEN 18 & 27 APR 2005.

PLSS: T15S, R20E, Sec. 14, NW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3638296 E702226

Latitude/Longitude: 32.86414 / -114.83872

Elevation (feet): 490

County Summary:

Quad Summary:

Imperial

Ogilby (3211477)

Sources:

MAL01F0247 MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04

TET05R0001 TETRA TECH - 2005 SURVEY DESERT TORTOISE (GOPHERUS AZISII) NORTH BAJA PIPELINE EXPANSION PROJECT (NBX) RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA. 2005-04-27



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 84035	EO Index: 85071
Key Quad: Hedges (3211487)	Element Code: ARAAF01012
Occurrence Number: 878	Occurrence Last Updated: 2011-11-21

Scientific Name: <i>Gopherus agassizii</i>	Common Name: desert tortoise
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: Threatened	Other Lists: IUCN_VU-Vulnerable
CNDDB Element Ranks:	
Global: G3	
State: S2S3	

General Habitat:	Micro Habitat:
MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.	REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-04	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-04-04	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.5 MI WNW OF HEDGES, JUST NW OF CARGO MUCHACHO MTNS, ABOUT 17 MI NW OF YUMA.

Detailed Location:
MAPPED TO PROVIDED COORDINATES.

Ecological:
HABITAT CONSISTED OF OPEN CREOSOTE SCRUB HABITAT.

Threats:
POTENTIAL THREATS INCLUDE OFF-HIGHWAY VEHICLES.

General:
CARCASS OBSERVED 4 APR 2001.

PLSS: T15S, R20E, Sec. 03, NE (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3640982 E701289	Latitude/Longitude: 32.88853 / -114.84813	Elevation (feet): 540

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
MAL01F0180 MALO, L. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 84137
Key Quad: Ogilby (3211477)
Occurrence Number: 906

EO Index: 85165
Element Code: ARAAF01012
Occurrence Last Updated: 2011-11-04

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Listing Status:
Federal: Threatened
State: Threatened
CNDDB Element Ranks:
Global: G3
State: S2S3

Rare Plant Rank:
Other Lists: IUCN_VU-Vulnerable

General Habitat:

MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.

Micro Habitat:

REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LARGE ANNUAL WILDFLOWER BLOOMS PREFERRED.

Last Date Observed: 2001-04-04
Last Survey Date: 2001-04-04
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 2 MI N OF OGILBY, 3.5 MI ESE OF CACTUS, W OF CARGO MUCHACHO MTNS.

Detailed Location:
 MAPPED TO PROVIDED COORDINATES.

Ecological:
 HABITAT CONSISTED OF CREOSOTE SCRUB WITH AMBROSIA.

Threats:
 POTENTIAL THREATS INCLUDED ORV USE.

General:
 FRESH SCAT OBSERVED 4 APR 2001.

PLSS: T15S, R20E, Sec. 23, NW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3636478 E702069	Latitude/Longitude: 32.84778 / -114.84078	Elevation (feet): 450

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
 MAL01F0246 MALO, L. - FIELD SURVEY FORM FOR GOPHERUS AGASSIZII 2001-04-04



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06562
Key Quad: Ogilby (3211477)
Occurrence Number: 32

EO Index: 14018
Element Code: ARACF12040
Occurrence Last Updated: 2003-01-17

Scientific Name: *Phrynosoma mcallii*

Common Name: flat-tailed horned lizard

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G3
 State: S2

Rare Plant Rank:
Other Lists: BLM_S-Sensitive
 CDFW_SSC-Species of Special Concern
 IUCN_NT-Near Threatened

General Habitat:

RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.

Micro Habitat:

CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed: 2002-06-09
Last Survey Date: 2002-06-09
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Excellent
Trend: Unknown

Location:
 ABOUT 0.8 MILE SE OF I-8 AT OGILBY ROAD AND 4 MI S OF OGILBY.

Detailed Location:
 1979: LOCATION GIVEN ONLY AS SECTION 24. 2002: SPECIFIC LOCATION GIVEN ON OBSERVATION ALONG PIPELINE.

Ecological:
 CREOSOTE SCRUB, SANDY GRAVEL.

Threats:
 OHV TRAFFIC AND PIPELINE CONSTRUCTION.

General:
 1 LIZARD AND 3 SCATS OBSERVED ON 26 APR 1979, LOCATION GIVEN ONLY AS SECTION 24. 1 LIVE ADULT FOUND IN PIPELINE TRENCH AND MOVED 100 YDS WEST OF RIGHT-OF-WAY ON 9 JUN 2002.

PLSS: T16S, R20E, Sec. 24, SW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3626132 E703835	Latitude/Longitude: 32.75420 / -114.82421	Elevation (feet): 240

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

HAS02F0004	HASHAGEN, K. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR PHRYNOSOMA MCALLII 2002-06-09
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	23027	EO Index:	14019
Key Quad:	Ogilby (3211477)	Element Code:	ARACF12040
Occurrence Number:	33	Occurrence Last Updated:	2015-09-03

Scientific Name:	<i>Phrynosoma mcallii</i>	Common Name:	flat-tailed horned lizard
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDB Element Ranks:	Global: G3 State: S2	Other Lists:	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened

General Habitat:	Micro Habitat:
RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.

Last Date Observed:	2013-04-28	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2013-04-28	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
INTERSECTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD, PILOT KNOB MESA, EAST OF ALGODONES DUNES.

Detailed Location:
MAPPED TO INCLUDE 1966 LOCALITY, "3.9 MI S OGILBY," 1968 LOCALITY, "OGILBY RD NEAR US HWY 80" (NOW I-8), AND COORDINATES GIVEN FOR 2013 DETECTION. 1979 DETECTION LOCATION REPORTED ONLY AS SECTION 23 ALSO ATTRIBUTED HERE.

Ecological:
DUNE HABITAT.

Threats:

General:
1 COLLECTED 14 MAY 1966. 1 COLLECTED 8 SEP 1968. ONE OBSERVED 26 APR 1979. 1 OBSERVED ON 28 APR 2013.

PLSS:	T16S, R20E, Sec. 23, NW (S)	Accuracy:	2/5 mile	Area (acres):	0
UTM:	Zone-11 N3626458 E702395	Latitude/Longitude:	32.75740 / -114.83950	Elevation (feet):	220

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

HER16D0001	HERP, INC. - HERPETOLOGICAL EDUCATION AND RESEARCH PROJECT (HERP) DATABASE. FORMERLY A PROJECT OF THE NORTH AMERICAN FIELD HERPING ASSOCIATION 2016-10-11
MCD66S0001	MCDIARMID, R. - MCDIARMID #66-17 -1 LACM #8862 COLLECTED FROM 3.9 MI S OGILBY 1966-05-14
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25
WIE68S0001	WIEWANDT, T. - UAZ #28045 COLLECTED FROM OGILBY RD NEAR US HWY 80 1968-09-08



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06544	EO Index: 14020	
Key Quad: Ogilby (3211477)	Element Code: ARACF12040	
Occurrence Number: 34	Occurrence Last Updated: 2012-06-20	

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S2	IUCN_NT-Near Threatened

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 1979-04-27	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1980-06-20	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
PILOT KNOB MESA, ABOUT 1 MILE NW OF I-8 AT OGILBY RD (S34) AND 2 MILES SSW OF OGILBY.

Detailed Location:
SDNHM LOCALITIES: "OGILBY; 2 MILES SW OF." MAPPED TO PROVIDED TRS FROM 1979 "SECTION SEARCHES." VICINITY OF PLOT #7 IN 1980 SURVEY, ABOUT 1 MILE NW OF S34 AT I-8.

Ecological:
1980: CREOSOTE AND BURSAGE WERE DOMINANT PERENNIALS, IRONWOOD PRESENT. POGONOMYRMEX NESTS FOUND AT SITE. FRINGE-TOED LIZARDS ALSO OCCUR IN THIS AREA & HAVE SCAT INDISTINGUISHABLE FROM THAT OF FTHL; MORE RESEARCH IN THIS AREA IS NEEDED.

Threats:
General:
SDNHM #56513 & 56514 COLLECTED BY M. MCCOID ON 25 MAY 1975. 1 OBSERVED IN SEC 10, 1 OBSERVED IN SEC 15 ON 27 APR 1979. 0 FTHL AND 6 SCATS FOUND 17-20 JUN 1980.

PLSS: T16S, R20E, Sec. 10 (S)	Accuracy: non-specific area	Area (acres): 1,296
UTM: Zone-11 N3628756 E701038	Latitude/Longitude: 32.77837 / -114.85348	Elevation (feet): 240

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:

ALT80R0001	ALTMAN, E. ET AL. - AN EVALUATION OF THE RELATIVE ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD (PHRYNOSOMA MCALLII) IN 10 AREAS IN SOUTHEASTERN CALIFORNIA 1980-09-XX
HER09S0001	HERPNET - PRINTOUT OF PHRYNOSOMA MCALLII RECORDS FROM MULTIPLE MUSEUMS EXCEPT MVZ. 2009-12-09
TUR80R0001	TURNER, F. ET AL. - A SURVEY OF THE OCCURRENCE AND ABUNDANCE OF THE FLAT-TAILED HORNED LIZARD IN CALIFORNIA. LABORATORY OF NUCLEAR MEDICINE AND RADIATION BIOLOGY, UC LOS ANGELES 1980-01-25



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06564	EO Index: 22417
Key Quad: Ogilby (3211477)	Element Code: ARACF12040
Occurrence Number: 39	Occurrence Last Updated: 2012-09-26

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S2	IUCN_NT-Near Threatened

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 1947-07-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1947-07-26	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ALONG I-8, ABOUT 2 MILES W OF FELICITY AND 5 MILES SSE OF OGILBY.

Detailed Location:
COULD NOT LOCATE PROVIDED LOCALITY "SPRINGERS." MAPPED TO TRS GIVEN IN BLM'S COMPILATION OF MUSEUM SPECIMENS (BLM80S0020).

Ecological:

Threats:

General:

SDMNH SPECIMEN #38521 COLLECTED BY CHARLES SHAW ON 26 JUL 1947.

PLSS: T16S, R21E, Sec. 19, NW (S)	Accuracy: 2/5 mile	Area (acres): 0
UTM: Zone-11 N3626155 E705959	Latitude/Longitude: 32.75401 / -114.80155	Elevation (feet): 253

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Ogilby (3211477)

Sources:

BLM80S0020	BUREAU OF LAND MANAGEMENT - DESERT PLAN STAFF - COMPILATION OF HISTORIC MUSEUM SPECIMEN INFORMATION FOR PHRYNOSOMA MCALLII, COLLECTED DURING THE PREPARATION OF "THE CALIFORNIA DESERT PLAN" 1980-XX-XX
HER09S0001	HERPNET - PRINTOUT OF PHRYNOSOMA MCALLII RECORDS FROM MULTIPLE MUSEUMS EXCEPT MVZ. 2009-12-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 39690	EO Index: 34692
Key Quad: Grays Well NE (3211467)	Element Code: ARACF12040
Occurrence Number: 79	Occurrence Last Updated: 1998-09-10

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	BLM_S-Sensitive
Global: G3	CDFW_SSC-Species of Special Concern
State: S2	IUCN_NT-Near Threatened

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 1984-05-17	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1984-05-17	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
WHERE HIGHWAY 8 CROSSES THE ALL AMERICAN CANAL (BM 196), SE TOWARD CALIFORNIA-MEXICO BORDER, 5 MILES NE OF GRAYS WELL.

Detailed Location:
SCAT FOUND ON NORTH SIDE OF CANAL FROM HIGHWAY CROSSING TO 3 MILES SOUTHEAST OF HIGHWAY 8.

Ecological:
MOST OF THE HABITAT ALONG THE PROPOSED CANAL ROUTE COULD CONTAIN LIZARDS EXCEPT WETLAND/RIPARIAN AREA BETWEEN DROPS 3 & 4, & ALGODONES DUNES (BETWEEN SEGMENT MARKERS 7 TO 11).

Threats:

General:

ABUNDANCE INDEX OF LIZARDS WAS DETERMINED PER SECTION BY COUNTING SCAT.

PLSS: T16S, R20E, Sec. 52 (S)	Accuracy: non-specific area	Area (acres): 193
UTM: Zone-11 N3624577 E701707	Latitude/Longitude: 32.74057 / -114.84725	Elevation (feet): 200

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Ogilby (3211477)

Sources:
ROR84R0001 RORABAUGH, J. (U.S. BUREAU OF RECLAMATION) - AN EVALUATION OF FLAT-TAILED HORNED LIZARD (PHRYNOSOMA MCALLII) HABITAT QUALITY ALONG 40.9 KM (25.4 MI) OF THE PROPOSED ALL-AMERICAN CANAL ROUTE IN IMPERIAL COUNTY, CALIFORNIA 1984-06-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 49935	EO Index: 49935
Key Quad: Ogilby (3211477)	Element Code: ARACF12040
Occurrence Number: 89	Occurrence Last Updated: 2015-09-03

Scientific Name: <i>Phrynosoma mcallii</i>	Common Name: flat-tailed horned lizard
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists: BLM_S-Sensitive
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G3	IUCN_NT-Near Threatened
State: S2	

General Habitat: RESTRICTED TO DESERT WASHES AND DESERT FLATS IN CENTRAL RIVERSIDE, EASTERN SAN DIEGO, AND IMPERIAL COUNTIES.	Micro Habitat: CRITICAL HABITAT ELEMENT IS FINE SAND, INTO WHICH LIZARDS BURROW TO AVOID TEMPERATURE EXTREMES; REQUIRES VEGETATIVE COVER AND ANTS.
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Last Date Observed: 2002-05-29	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-05-29	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
0.5 MILE ESE OF THE JUNCTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD, EAST SIDE OF ALGODONES DUNES.

Detailed Location:
Ecological:
CREOSOTE SCRUB, SANDY GRAVEL, FLAT.

Threats:
PIPELINE CONSTRUCTION, SURROUNDING USE IS DESERT RECREATION.

General:
ONE ADULT KILLED BY CONSTRUCTION EQUIPMENT 29 MAY 2002.

PLSS: T16S, R20E, Sec. 23, NE (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3626463 E703430	Latitude/Longitude: 32.75725 / -114.82845	Elevation (feet): 220

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
NIE02F0002 NIEUWEHUIZEN, I. (FOSTER WHEELER ENVIRONMENTAL) - FIELD SURVEY FORM FOR PHRYNOSOMA MCALLII 2002-05-29



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06540	EO Index: 22762
Key Quad: Ogilby (3211477)	Element Code: IICOL30060
Occurrence Number: 5	Occurrence Last Updated: 1989-08-11

Scientific Name: <i>Anomala hardyorum</i>	Common Name: Hardy's dune beetle
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1	
State: S1	

General Habitat: KNOWN ONLY FROM CREOSOTE BUSH SCRUB HABITAT IN THE VICINITY OF THE ALGODONES DUNES, IMPERIAL COUNTY.	Micro Habitat: ADULTS ACTIVE AT DUSK, GENERALLY ON NORTH OR EAST SLIP FACES OF DUNES.
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Last Date Observed: 1979-04-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1979-04-12	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNE SYSTEM, 4 MI SSW OF OGILBY.

Detailed Location:

Ecological:

NO KNOWN HOST PLANT. ADULTS HAVE BEEN SIFTED FROM SAND BENEATH A WIDE VARIETY OF PLANTS. NOTHING IS KNOWN OF THE IMMATURE STAGES. ADULTS ARE ACTIVE AT DUSK, GENERALLY ON NORTH- OR EAST-FACING SLIP FACES.

Threats:

General:

PLSS: T16S, R20E, Sec. 22, NW (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3626372 E700427	Latitude/Longitude: 32.75699 / -114.86051	Elevation (feet): 205

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:
HAR79R0001 HARDY, A. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - AN INVENTORY OF SELECTED COLEOPTERA FROM THE ALGODONES DUNES. REPORT TO BLM, CONTRACT CA-060-CT 8-68. 1979-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118239
Key Quad:	Glamis (3211581)	Element Code:	IICOL33020
Occurrence Number:	1	Occurrence Last Updated:	2020-05-01

Scientific Name:	<i>Cyclocephala wandae</i>	Common Name:	Wandae dune beetle
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1G2 State: S1S2	Other Lists:	

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1972-09-XX	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1972-09-XX	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

SPECIMENS WERE COLLECTED USING BLACKLIGHTS IN 1971 AND 1972.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

AND79R0001	ANDREWS, F. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - THE COLEOPTEROUS FAUNA OF SELECTED CALIFORNIA SAND DUNES. REPORT TO BLM. 1979-03-15
HAR74A0001	HARDY, A. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - A NEW SPECIES OF CYCLOCEPHALA LATREILLE FROM CALIFORNIA SAND DUNES (COLEOPTERA: SCARABAEIDAE). THE PAN-PACIFIC ENTOMOLOGIST 50: 160-161. 1974-04-XX
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
WAS72S0001	WASBAUER, M. & A. HARDY - CAS #11941 & USNM #11065335 & CMN #17140 COLLECTED 3 MI NW OF GLAMIS 1972-09-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 06540
Key Quad: Ogilby (3211477)
Occurrence Number: 15

EO Index: 22697
Element Code: IICOL37020
Occurrence Last Updated: 1989-08-11

Scientific Name: *Pseudocotalpa andrewsi*

Common Name: Andrew's dune scarab beetle

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G1
 State: S1

Rare Plant Rank:
Other Lists:

General Habitat:

ENDEMIC TO THE CREOSOTE BUSH SCRUB HABITAT OF ALGODONES DUNES, NW OF GLAMIS, IMPERIAL COUNTY; 100-400 FT ELEVATION.

Micro Habitat:

INHABITS BOTH SURFACE AND SUB-SURFACE OF SAND, UTILIZING THE WET SAND INTERFACE AS PROTECTION FROM THE HEAT OF THE DAY.

Last Date Observed: 1979-04-12

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1979-04-12

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ALGODONES DUNE SYSTEM, 4 MI SSW OF OGILBY.

Detailed Location:

ENDEMIC TO THE ALGODONES DUNES.

Ecological:

FLIGHT ACTIVITY 10-30 MINUTES AFTER SUNSET, DIGGING IN 1-2 MINUTES AFTER LANDING, DESCENDING TO THE WET SAND INTERFACE (USUALLY 5-8 CM, UP TO 30 CM). HOST PLANT UNKNOWN, ALTHOUGH MOST ADULTS SWARM AROUND CREOSOTE.

Threats:

OHVS. THE DUNES SOUTH OF HWY 78 ARE THE IMPERIAL SAND DUNES OHVA.

General:

ADULTS SWARM FROM APRIL TO MID-MAY.

PLSS: T16S, R20E, Sec. 22 (S)

Accuracy: 1/5 mile

Area (acres): 0

UTM: Zone-11 N3626372 E700427

Latitude/Longitude: 32.75699 / -114.86051

Elevation (feet): 200

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

Sources:

HAR79R0001 HARDY, A. ET AL. (CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE) - AN INVENTORY OF SELECTED COLEOPTERA FROM THE ALGODONES DUNES. REPORT TO BLM, CONTRACT CA-060-CT 8-68. 1979-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 118258
Key Quad: Glamis (3211581)	Element Code: IIDIP07040
Occurrence Number: 1	Occurrence Last Updated: 2020-05-01

Scientific Name: <i>Efferia macroxipha</i>	Common Name: Glamis robberfly
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 1988-09-12	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1988-09-12	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

SPECIMENS WERE COLLECTED IN THIS VICINITY IN 1986, 1987, AND 1988.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

FOR88S0001	FORBES, G. - NMSU #48873, 48903, 48905, 48906, 48908-48911, 48914, 48915, 48919, 48922, 48925, 48928, 48929, 48931 & 48933 COLLECTED FROM ALGODONES DUNES, RT 78, 0.8 MI W GECKO RD 1988-09-12
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
KIM17A0001	KIMSEY, L. ET AL. - INSECT BIODIVERSITY OF THE ALGODONES DUNES OF CALIFORNIA 2017-11-24
ROG86S0001	ROGERS, R. - CAS #16132 & NMSU #48932 COLLECTED FROM SAND DUNES, 2 MI W OF GLAMIS, HWY 78 1986-09-19
ROG87S0001	ROGERS, R. - NMSU #48916, 48918, 48926 & 48927 COLLECTED FROM GECKO CAMPGROUND RD, NEAR HWY 78 1987-09-12
ROG87S0002	ROGERS, R. - NMSU #48920 COLLECTED FROM GECKO CAMPGROUND RD, NEAR HWY 78 1987-09-21



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118240
Key Quad:	Glamis (3211581)	Element Code:	IIDIP54020
Occurrence Number:	1	Occurrence Last Updated:	2020-04-28

Scientific Name:	<i>Apiocera warneri</i>	Common Name:	Glamis sand fly
Listing Status:	Federal: None	Rare Plant Rank:	
	State: None	Other Lists:	
CNDDB Element Ranks:	Global: G1G2		
	State: S1S2		

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1982-09-15	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1982-09-15	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

THIS SPECIES IS ONLY KNOWN FROM THE TYPE COLLECTIONS. THESE WERE MADE 1.5 MILES WEST OF GLAMIS AND 4 MILES NORTH OF GLAMIS ON 15 SEP 1982.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:	Quad Summary:
Imperial	Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

CAZ85A0002	CAZIER, M. - NEW SPECIES AND NOTES ON FLIES BELONGING TO THE GENUS APIOCERA (DIPTERA, APIOCERIDAE). AMERICAN MUSEUM NOVITATES 2837: 1-28. 1985-11-14
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	118355
Key Quad:	Glamis (3211581)	Element Code:	IIHYM01130
Occurrence Number:	1	Occurrence Last Updated:	2020-05-06

Scientific Name:	<i>Perdita algodones</i>	Common Name:	Algodones perdita
Listing Status:	Federal: None State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1G2 State: S1S2	Other Lists:	

General Habitat:	Micro Habitat:
ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY.	<input type="checkbox"/>

Last Date Observed:	1972-04-09	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1972-04-09	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

COLLECTIONS WERE MADE FROM THIS VICINITY IN 1965, 1968, AND 1972.

PLSS:	T14S, R18E, Sec. 53 (S)	Accuracy:	non-specific area	Area (acres):	148,089
UTM:	Zone-11 N3642497 E681857	Latitude/Longitude:	32.90558 / -115.05548	Elevation (feet):	250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

HAR72S0005	HARDY, A. - UCRC #165955 COLLECTED 3 MILES NW OF GLAMIS, KIPF ROAD, ALGODONES DUNES 1972-04-09
IRW65S0001	IRWIN, M. - UCRC #165956 COLLECTED 1 MILE WEST OF GLAMIS 1965-04-25
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFW). 2007-04-XX
RAU68S0001	RAUCH, P. - CAS #14416 COLLECTED 3.5 MILES NW OF GLAMIS 1968-04-13
TIM80A0001	TIMBERLAKE, P. - SUPPLEMENTARY STUDIES ON THE SYSTEMATICS OF THE GENUS PERDITA (HYMENOPTERA, ANDRENIDAE), PART II. UNIVERSITY OF CALIFORNIA PUBLICATIONS IN ENTOMOLOGY 85. 1980-05-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 119180
Key Quad: Glamis (3211581)	Element Code: IHHYM01140
Occurrence Number: 1	Occurrence Last Updated: 2020-09-28

Scientific Name: <i>Perdita frontalis</i>	Common Name: Imperial Perdita
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: <input type="checkbox"/>	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 2014-05-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2014-05-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:

VARIOUS COLLECTION LOCALITIES DESCRIBED AS FROM GLAMIS TO 5.7 MILES WEST OF GLAMIS. MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

MOST COLLECTIONS WERE MADE FROM FLOWERS OF TIQUILA PLICATA.

Threats:

General:

COLLECTIONS WERE MADE IN 1960, 1962, 2012, 2013, AND 2014.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

- DIC60S0004 DICKSON, R. - CAS #14531 COLLECTED FROM SAND DUNES, 5.7 MILES WEST OF GLAMIS, IMPERIAL CO, CA, ON ERIOGONUM DESERTICOLA 1960-07-25
- DIC60S0005 DICKSON, R. - UCRC #173923 COLLECTED E BRAWLEY, ON ERIOGONUM DESERTICOLA 1960-06-28
- DIC60S0006 DICKSON, R. - UCRC #173924 COLLECTED FROM SAND DUNES S OF BRAWLEY, ON COLDENIA PLICATA 1960-07-11
- KIM07U0001 KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
- POR16A0001 PORTMAN, Z. ET AL. - TAXONOMIC REVISION OF PERDITA SUBGENUS HETEROPERDITA TIMBERLAKE (HYMENOPTERA: ANDREDIDAE), WITH DESCRIPTIONS OF TWO ANT-LIKE MALES. ZOOTAXA 4214(1): 1-97. 2016-XX-XX
- TIM68A0001 TIMBERLAKE, P. - A REVISIONAL STUDY OF THE BEES OF THE GENUS PERDITA F. SMITH, WITH SPECIAL REFERENCE TO THE FAUNA OF THE PACIFIC COAST. PART VII. UNIVERSITY OF CA PUBLICATIONS IN ENTOMOLOGY 49. 1968-XX-XX
- YAN20U0001 YANEGA, D. (UNIVERSITY OF CALIFORNIA, RIVERSIDE) - EMAIL REGARDING PERDITA FRONTALIS COLLECTION LOCALITES 2020-09-25



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	B5349	EO Index:	119019
Key Quad:	Glamis (3211581)	Element Code:	IIHYM01840
Occurrence Number:	2	Occurrence Last Updated:	2020-08-10

Scientific Name:	<i>Perdita stephanomeriae</i>	Common Name:	a miner bee
Listing Status:	Federal: None	Rare Plant Rank:	
	State: None	Other Lists:	
CNDDDB Element Ranks:	Global: GNR		
	State: S1S2		

General Habitat:	<input type="checkbox"/>	Micro Habitat:	<input type="checkbox"/>
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Last Date Observed:	1965-06-13	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1965-06-13	Occurrence Rank:	Unknown
Owner/Manager:	BLM	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
 COLLECTION LOCALITY GIVEN ONLY AS "GLAMIS." MAPPED BY CNDDDB NON-SPECIFICALLY ACROSS THE EXTENT OF THE GLAMIS DUNES, ALSO KNOWN AS THE ALGODONES DUNES.

Ecological:
Threats:

General:
 COLLECTED ON 13 JUN 1965. SPECIMENS ORIGINALLY USED TO DESCRIBE THE SPECIES PERDITA GLAMIS, BUT THAT SPECIES WAS LATER LUMPED INTO PERDITA STEPHANOMERIAE.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:	Quad Summary:
Imperial	Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX
POR17A0001	PORTMAN, Z. & T. GRISWOLD - REVIEW OF PERDITA SUBGENUS PROCOCKERELLIA TIMBERLAKE (HYMENOPTERA, ANDRENIDAE) AND THE FIRST PERDITA GYNANDROMORPH. ZOOKEYS 712: 87-111. 2017-XX-XX
TIM80A0001	TIMBERLAKE, P. - SUPPLEMENTARY STUDIES ON THE SYSTEMATICS OF THE GENUS PERDITA (HYMENOPTERA, ANDRENIDAE), PART II. UNIVERSITY OF CALIFORNIA PUBLICATIONS IN ENTOMOLOGY 85. 1980-05-XX
WAL65S0004	WALLACE, G. - UCRC #174303 & CAS #14544 COLLECTED FROM GLAMIS 1965-06-13



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 118339
Key Quad: Glamis (3211581)	Element Code: IHHYM90010
Occurrence Number: 1	Occurrence Last Updated: 2020-05-05

Scientific Name: <i>Microbembex elegans</i>	Common Name: Algodones elegant sand wasp
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat: ENDEMIC TO THE ALGODONES DUNES IN IMPERIAL COUNTY	Micro Habitat: <input type="checkbox"/>
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Last Date Observed: 1988-10-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1988-10-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:
FOUND ONLY AROUND THE BASES OF SHRUBS WHERE DETRITUS COLLECTS ON ACTIVE SLIP FACES OF THE DUNES.

Threats:
General:
THIS SPECIES IS ONLY KNOWN FROM THE TYPE COLLECTIONS. THESE WERE MADE FROM GLAMIS DUNES, 1 MILE WEST OF GLAMIS IN SEP 1987 AND OCT 1988, AND ALSO 4 MILES SOUTH OF OGILBY IN OCT 1988.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)
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Sources:

GRI96A0001	GRISWOLD, T. (UTAH STATE UNIVERSITY) - A NEW MICROBEMBEX ENDEMIC TO THE ALGODONES DUNES, CALIFORNIA (HYMENOPTERA: SPHECIDAE). PAN-PACIFIC ENTOMOLOGIST 72(3): 142-144. 1996-XX-XX
KIM07U0001	KIMSEY, L. (UNIVERSITY OF CALIFORNIA, DAVIS) - COMPILED INVERTEBRATE COLLECTION RECORDS NEAR ALGODONES DUNES FROM VARIOUS INSTITUTIONS (UCB, UCD, UCR, USU, USNM, CAS, MCZ, LAMNH, AMNH, CDFA). 2007-04-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: B5349	EO Index: 118271
Key Quad: Glamis (3211581)	Element Code: IHHYMB010
Occurrence Number: 1	Occurrence Last Updated: 2020-05-04

Scientific Name: <i>Euparagia unidentata</i>	Common Name: Algodones euparagia
Listing Status:	Rare Plant Rank:
Federal: None	
State: None	Other Lists:
CNDDDB Element Ranks:	
Global: G1G2	
State: S1S2	

General Habitat:	Micro Habitat:
<input type="checkbox"/>	<input type="checkbox"/>

Last Date Observed: 2008-06-03	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2008-06-03	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES, SE OF THE SALTON SEA.

Detailed Location:
MAPPED NON-SPECIFICALLY ACROSS THE EXTENT OF THE ALGODONES DUNES.

Ecological:

Threats:

General:

COLLECTIONS WERE MADE FROM THIS VICINITY IN 1960 AND 2008.

PLSS: T14S, R18E, Sec. 53 (S)	Accuracy: non-specific area	Area (acres): 148,089
UTM: Zone-11 N3642497 E681857	Latitude/Longitude: 32.90558 / -115.05548	Elevation (feet): 250

County Summary:

Imperial

Quad Summary:

Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)

Sources:

ANONDS0367	ANONYMOUS - AMNH #178751 COLLECTED FROM GECKO RD S OF ALGODONES DUNES WILDERNESS AREA XXXX-XX-XX
CAR09A0001	CARPENTER, J. & L. KIMSEY - THE GENUS EUPARAGIA CRESSON (HYMENOPTERA: VESPIDAE; EUPARAGIINAE). AMERICAN MUSEUM NOVITATES 3643: 1-11. 2009-03-31
DIC60S0001	DICKSON, R. - UCRC #71283 & 71284 COLLECTED FROM ERIOGONUM DESERTICOLA AT SAND DUNES EAST OF BRAWLEY 1960-06-13
DIC60S0002	DICKSON, R. - UCRC #71288 COLLECTED FROM ERIOGONUM DESERTICOLA 7 MILES WEST OF GLAMIS 1960-07-25
DIC60S0003	DICKSON, R. - UCRC #71285, 71286, 71287 & 71289 COLLECTED FROM COLDENIA Plicata 2 MILES WEST OF GLAMIS 1960-07-25
KIM17A0001	KIMSEY, L. ET AL. - INSECT BIODIVERSITY OF THE ALGODONES DUNES OF CALIFORNIA 2017-11-24



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 77872	EO Index: 6544
Key Quad: Glamis (3211581)	Element Code: PDAST6T012
Occurrence Number: 1	Occurrence Last Updated: 2014-05-28

Scientific Name: <i>Palafoxia arida</i> var. <i>gigantea</i>	Common Name: giant spanish-needle
Listing Status:	Rare Plant Rank: 1B.3
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDB Element Ranks:	Botanic Garden
Global: G5T3?	
State: S2	

General Habitat: DESERT DUNES.	Micro Habitat: ACTIVE AND STABLE DUNE AREAS; ASSOCIATED WITH AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ETC. 20-95 M.
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Last Date Observed: 2013-04-20	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2013-04-20	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES.

Detailed Location:
SCATTERED THROUGHOUT THE DUNES FROM SOUTHERN PACIFIC RR TRACKS WEST TO THE COACHELLA CANAL AND FROM MAMMOTH WASH SOUTH TO THE CA/MEXICO BORDER. MAPPED BY CNDDB USING MULTIPLE MAP SOURCES.

Ecological:
SAND DUNES WITHIN DESERT PSAMMOPHYTIC SCRUB (STABILIZED AND PARTIALLY STABILIZED DESERT DUNES). ASSOCIATES INCLUDE SEVERAL RARE PLANTS: AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ERIOGONUM DESERTICOLA, PILOSTYLES THURBERI, ETC.

Threats:
ORV USE.

General:
>3,000 PLANTS SEEN ALONG ALL AMERICAN CANAL IN 1993. 34,649 IN 1998; 1,458 IN 1999; 13,933 IN 2000. 25 PLANTS ALONG HWY 78 JUST E OF GECKO RD IN 2009. 80+ PLANTS N OF HWY 78 ~1 MI NW OF OSBORNE LOOKOUT IN 2013. INCL FRMR EOS 2-49, 51, 52.

PLSS: T14S, R18E, Sec. 51 (S)	Accuracy: specific area	Area (acres): 118,017
UTM: Zone-11 N3644086 E681072	Latitude/Longitude: 32.92004 / -115.06355	Elevation (feet):

County Summary: Imperial, Mexico	Quad Summary: Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)
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Sources:

ALE41S0030 ALEXANDER, A. & L. KELLOGG - ALEXANDER #1936 UC #669289 POM #115609, GH #427281 1941-03-14

AND09S0005 ANDRE, J. & T. LA DOUX - ANDRE #9871 UCR #211316, RSA #760079, GMDRC #2967 (CITED IN AND10D0001) 2009-02-26

AND10D0001 ANDRE, J. - EXCEL TABLE OF MULTIPLE PLANT COLLECTIONS 2010-01-18

ANO69S0003 ANONYMOUS - ANONYMOUS #11 UCR #16704 1969-05-24

BAR67S0001 BARR, R. - BARR #67-128 UA (AS CITED IN WAR87R0001) 1967-04-16

BEL13S0009 BELL, D. ET AL. - BELL #4823 RSA #806857 2013-04-20

BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX

BEN33S0011 BENSON, L. - BENSON #4223 RSA #431136 1933-04-01



Occurrence Report
California Department of Fish and Wildlife
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BLM00R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: RESULTS OF 1998 MONITORING AND COMPARISON WITH THE DATA FROM WESTECS 1977 MONITORING STUDY 2000-11-XX
BLM01R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, AND 2000 2001-06-XX
BLM77F0001	BLM-BUREAU OF LAND MANAGEMENT - FIELD SURVEY FORM FOR PALAFOXIA ARIDA VAR. GIGANTEA 1977-10-13
BLM78F0001	SEARS, W. - BLM (S-II) FIELD SURVEY FORM FOR PALAFOXIA ARIDA VAR. GIGANTEA 1978-XX-XX
BLM86R0002	BLM-BUREAU OF LAND MANAGEMENT - PROPOSED 1985 PLAN AMENDMENTS VOL. 2 1986-01-XX
BOW70S0001	BOWERS, D. - BOWERS #1608 RSA #786954 1970-12-29
BOW81S0001	BOWERS, J. - BOWERS #2076 UA (AS CITED IN WAR87R0001) 1981-03-14
BOW83S0003	BOWERS, J. & S. MCLAUGHLIN - BOWERS #2785 UCR #46271 1983-11-12
BRO80S0003	BROWNELL, K. - BROWNELL #206 UCSB #36654 1980-05-17
CHM00R0001	CH2M HILL - IMPERIAL IRRIGATION DISTRICT (IID)/SAN DIEGO COUNTY WATER AUTHORITY (SDCWA) WATER CONSERVATION AND TRANSFER PROJECT EIR/EIS, SCOPING SUMMARY REPORT 2000-03-10
DAV79S0003	DAVIDSON, C. ET AL. - DAVIDSON #7742 HSU #82914 POM #363734 1979-04-28
DAV79S0004	DAVIDSON, C. ET AL. - DAVIDSON #7792 POM #363735 1979-04-28
DEF33S0002	DE FOREST, H. & J. REMPEL - DE FOREST #17695 RSA #363761 1933-04-10
DUN35S0005	DUNKLE, M. - DUNKLE #4586 POM #363736 1935-04-18
FER38S0002	FERRIS, R. & R. ROSSBACH - FERRIS #9588 UC #604962 POM #19546, GH #427279 1938-05-17
FUL59S0002	FULLER, T. - FULLER #3273 CDA #8432 1959-10-07
GIL28S0004	GILMAN, M. - GILMAN SN POM #145269 1928-04-XX
GOR80S0003	GORDON, P. - GORDON #630 UCSB #37387 1980-05-17
GRA78S0002	GRANGER, S. - GRANGER SN RSA #650937 1978-04-03
GUI08S0005	GUILLIAMS, C. & J. MARSHALL - GUILLIAMS #635 SDSU #18373 & #18392 2008-04-23
GUS83S0012	GUSTAFSON, R. & KEELEY - GUSTAFSON #2569 POM #363733 1983-05-06
HIG74S0001	HIGGINS, L. - HIGGINS #8507 ASU (AS CITED IN WAR87R0001) 1974-04-12
HIT66S0008	HITCHCOCK, C. - HITCHCOCK #24287 DAV #134877 1966-03-19
HOW64S0005	HOWE, D. - HOWE #3756 SD #60969 SDSU #369 1964-04-11
HOW80S0004	HOWE, D. - HOWE SN SD #128762 1980-04-14
HUN80S0001	HUNKINS, C. - HUNKINS #80030903, SEINET #2053908, DES #27249, DBG (CITED IN WAR87R0001) 1980-03-09
JEP27S0017	JEPSON, W. - JEPSON #11722 JEPS #34765 1927-04-15
JON31S0014	JONES, M. - JONES #28599 POM #188054 UC #479265 1931-09-24
JOR82S0002	JORGENSEN, J. - JORGENSEN #305 UCSB #39124 1982-03-24
KEL37S0001	KELLER, A. - KELLER SN RSA #603891 SD #17611 1937-05-31
KEL37S0002	KELLER, A. - KELLER SN SD #17612 1937-05-31
KEL41S0001	KELLOGG, L. ET AL. - KELLOGG ET AL. #1936 UA #189037 (AS CITED IN WAR87R0001) 1941-03-14
LAT77S0004	LATTING, J. - LATTING SN UC #1746487 UCR #115382, SEINET #238517, UTC #230538, DAV #134884 1977-12-11
MAC97S0005	MACKAY, P. - MACKAY #130 VVC #648 1997-03-01
MCG71S0001	MCGEHEE, R. - MCGEHEE #352 SJSU #11689 1971-02-13
MIN64S0002	MINNICH, J. - MINNICH #64-3-25-14 UCR 1964-03-25
MUN32S0027	MUNZ, P. & C. HITCHCOCK - MUNZ #12131 UC #495107 1932-04-05
NEL30S0001	NELSON, A. - NELSON #11161 DS #231258 1930-02-27
NEL36A0001	NELSON, A. - ROCKY MOUNTAIN HERBARIUM STUDIES IV. AMERICAN JOURNAL OF BOTANY 23: 265-271. 1936-XX-XX
NIE77U0021	NIEHAUS, T. - CNPS STATUS REPORT 1977-XX-XX
PEI27S0010	PEIRSON, F. - PEIRSON #7198 RSA #92214 SD #87849 1927-04-15
PIT98S0003	PITZER, B. - PITZER #3477 SD #144029 UCR #102678 1998-02-02
POR03S0027	PORTER, J. - PORTER #13491 RSA #767601 2003-03-04



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



RAV58S0027 RAVEN, P. - RAVEN #12910 JEPS #30466 RSA #127758 1958-05-06
REC79R0001 U.S. BUREAU OF RECLAMATION - REPORT ON RARE PLANT POPULATIONS ALONG THE ALL AMERICAN CANAL 1979-XX-XX
REI96S0007 REINA, A. & T. VAN DEVENDER - REINA #220 RSA #592920, UCR #97014. SEINET #1110597, ASU, SEINET #891496, ASU #324968
1996-04-27
RIC79S0004 RICH, B. - RICH #79004 RSA #291588 1979-04-21
ROM79R0001 ROMSPERT, A. & J. BURK - ALGODONES DUNES SENSITIVE PLANT PROJECT - C.S.U. FULLERTON PREPARED FOR BLM 1979-
XX-XX
ROS63S0001 ROSSBACH, G. - ROSSBACH #5239 UC #1351650 1963-07-03
SEA78S0005 SEARS - SEARS #764 UCR #33542 1978-03-15
SIM65S0001 SIMPSON, J. - SIMPSON SN SD #103941 1965-05-13
STE90S0003 STEWART, J. - STEWART #649 UCR #89809 1990-03-14
STO96S0002 STONE, B. & J. DICE - STONE SN SD #138925 1996-04-29
SWA11S0038 SWANSON, A. - SWANSON #194 RSA #776107 2011-03-09
THO64S0037 THORNE, R. & RUTHERFORD - THORNE #33611 RSA #167678, GH #427280 1964-04-11
THO78S0051 THORNE, R. - THORNE #52150 RSA #336258 1978-05-30
THO84S0002 THORNE, R. ET AL. - THORNE #58265 RSA #331168 1984-04-27
TUR62S0001 TURNER, B. - TURNER #4757 SD #108087 1962-04-19
VAN05S0003 VAN DAM, A. - VAN DAM SN UCR #165596 2005-04-19
VAS64S0002 VASEK, F. - VASEK #640411-2 UCR #3820, UCSB #38383 1964-04-11
VAS64S0006 VASEK, F. - VASEK #640411-03 UCR #3819 1964-04-11
VER64S0005 VERITY, D. ET AL. - VERITY SN SFV #4269A 1964-02-15
WAR87R0001 WARREN, P. & A. LAURENZI - RARE PLANTS SURVEY OF THE YUMA DISTRICT. 1987-08-XX
WES77R0003 WESTEC SERVICES, INC. - SURVEY OF SENSITIVE PLANTS OF THE ALGODONES DUNES - PREPARED FOR BLM. 1977-08-XX
WIE35S0023 WIEGAND, K. & M. WIEGAND - WIEGAND #2578 GH #427282 1935-XX-XX
WIL05U0001 WILLOUGHBY, J. - EMAIL TO R. BITTMAN REGARDING DATA ON ALGODONES DUNES PLANTS 2005-11-30
WIL64S0002 WILSON, K. - WILSON #1327 SFV #4068 1964-04-11
WOL31S0036 WOLF, C. - WOLF #1888 RSA #2149 1931-03-14
WOLNDS0001 WOLF - WOLF #1888 HERBARIUM UNKNOWN XXXX-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 92503	EO Index: 93647
Key Quad: Ogilby (3211477)	Element Code: PDAST6T012
Occurrence Number: 56	Occurrence Last Updated: 2014-05-28

Scientific Name: <i>Palafoxia arida</i> var. <i>gigantea</i>	Common Name: giant spanish-needle
Listing Status:	Rare Plant Rank: 1B.3
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDB Element Ranks:	Botanic Garden
Global: G5T3?	
State: S2	

General Habitat:
DESERT DUNES.

Micro Habitat:
ACTIVE AND STABLE DUNE AREAS; ASSOCIATED WITH AMMOBROMA SONORAE, ASTRAGALUS LENTIGINOSUS BORREGANUS, ETC. 20-95 M.

Last Date Observed: 2002-03-02	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-03-02	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
IMPERIAL DUNES RECREATION AREA (ALGODONES DUNES), 0.5 MILE WSW OF OGILBY, WEST OF COUNTY ROAD S34.

Detailed Location:
MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2002 PORTER ET AL. COLLECTION; DATUM UNKNOWN; MAPPED TO ENCOMPASS NAD27 AND NAD83.

Ecological:
SHALLOW DUNES AND SANDY SOILS OF BRAIDED WASH.

Threats:

General:
ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2002 PORTER ET AL. COLLECTION.

PLSS: T15S, R20E, Sec. 34, E (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3632803 E701564	Latitude/Longitude: 32.81475 / -114.84698	Elevation (feet): 310

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
POR02S0002 PORTER, J. ET AL. - PORTER #13401 RSA #767464, ARIZ #412699 2002-03-02



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 35287	EO Index: 5532	
Key Quad: Ogilby (3211477)	Element Code: PDEUP080L0	
Occurrence Number: 1	Occurrence Last Updated: 1996-08-27	

Scientific Name: <i>Ditaxis claryana</i>	Common Name: glandular ditaxis
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists:
State: None	
CNDDB Element Ranks:	
Global: G3G4	
State: S2	

General Habitat: MOJAVEAN DESERT SCRUB, SONORAN DESERT SCRUB.	Micro Habitat: IN DRY WASHES AND ON ROCKY HILLSIDES. SANDY SOILS. 15-505 M.
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Last Date Observed: 1978-03-15	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1978-03-15	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 1.5 MILES NORTHEAST OF OGILBY, SOUTHWEST OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
OBSERVED AT T15S R20E SECTIONS 24 AND 25.

Ecological:
GROWING IN LOWER FAN OF DRY WASH ON GRAVELLY/SANDY SOILS WITHIN CREOSOTE SCRUB.

Threats:
General:
50-100 PLANTS OBSERVED OVER LESS THAN 100 ACRES IN 1978.

PLSS: T15S, R20E, Sec. 24 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3635326 E704098	Latitude/Longitude: 32.83702 / -114.81938	Elevation (feet): 550

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
SEA78F0003 SEARS, W. - FIELD SURVEY FORM FOR DITAXIS CLARYANA 1978-03-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 76081
Key Quad: Ogilby (3211477)
Occurrence Number: 38

EO Index: 77074
Element Code: PDEUPOH140
Occurrence Last Updated: 2014-09-17

Scientific Name: *Croton wigginsii*

Common Name: Wiggins' croton

Listing Status: **Federal:** None
 State: Rare
CNDDDB Element Ranks: **Global:** G2G3
 State: S2

Rare Plant Rank: 2B.2
Other Lists: BLM_S-Sensitive
 SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 DESERT DUNES, SONORAN DESERT SCRUB.

Micro Habitat:
 ON SAND DUNES AND IN SANDY ARROYOS. 0-155 M.

Last Date Observed: 2002-07-15
Last Survey Date: 2002-07-15
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 SE END OF THE ALGODONES DUNES; NEAR THE JUNCTION OF INTERSTATE 8 AND BLYTHE OGILBY ROAD.

Detailed Location:
 MAPPED BY CNDDDB AS BEST GUESS AROUND SECTION 23 ACCORDING TO TRS INFORMATION ON A 1978 SEARS FIELD SURVEY FORM.

Ecological:
 SPARSE DESERT SCRUB ON LOOSE SAND. ASSOCIATES INCLUDE AMMOBROMA SONORAE, PETALONYX THURBERI, TIQUILIA PLICATA, PALAFOXIA ARIDA GIGANTEA, OENOTHERA.

Threats:
General:
 SITE BASED ON A VAGUE 1978 SEARS SURVEY FORM. COLLECTIONS FROM "DIRT TRACK HEADING E 3.3 MI FROM GRAYS WELL RD EXIT OFF I-8", "4.1 MI S OF OGILBY AT OGILBY RD, EXIT I-10", AND "OGILBY RD, E SIDE ALGODONES DUNES, S OF I-8" ATTRIBUTED HERE.

PLSS: T16S, R20E, Sec. 23 (S)	Accuracy: non-specific area	Area (acres): 649
UTM: Zone-11 N3626368 E702733	Latitude/Longitude: 32.75652 / -114.83591	Elevation (feet): 200

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Ogilby (3211477)
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- Sources:**
- DAV79S0009 DAVIDSON, C. - DAVIDSON #7794 RSA #480697 1979-04-28
 - SEA78F0001 SEARS, W. - FIELD SURVEY FORM FOR CROTON WIGGINSII 1978-03-15
 - SEA78S0010 SEARS - SEARS #765 SEINET #3107109, FLD #4500 1978-XX-XX
 - VAN02S0001 VAN DEVENDER, T. ET AL. - VAN DEVENDER #2002-473 SEINET #281192 & #286839, USON #12101 2002-07-15



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 77752	EO Index: 78652
Key Quad: Grays Well NE (3211467)	Element Code: PDFAB0F491
Occurrence Number: 43	Occurrence Last Updated: 2009-12-29

Scientific Name: <i>Astragalus insularis</i> var. <i>harwoodii</i>	Common Name: Harwood's milk-vetch
Listing Status:	Rare Plant Rank: 2B.2
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5T4	
State: S2	

General Habitat: DESERT DUNES, MOJAVEAN DESERT SCRUB.	Micro Habitat: OPEN SANDY FLATS AND SANDY OR STONY DESERT WASHES; MOSTLY IN CREOSOTE BUSH SCRUB. -45-700 M.
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Last Date Observed: 1985-03-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1985-03-10	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
I-8 AT JUNCTION WITH SIDEWINDER RD, SE END OF PILOT KNOB MESA.

Detailed Location:
MAPPED BY CNDDDB AS BEST GUESS AT THE JUNCTION OF I-8 AND SIDEWINDER RD.

Ecological:
SANDY SOIL WITH LARREA AND CROTON CALIFORNICUS.

Threats:
General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1985 MCLAUGHLIN & BOWERS COLLECTION, MENTIONED AS "UNCOMMON" IN 1985.

PLSS: T16S, R21E, Sec. 21 (S)	Accuracy: 3/5 mile	Area (acres): 0
UTM: Zone-11 N3625454 E710370	Latitude/Longitude: 32.74686 / -114.75465	Elevation (feet): 250

County Summary: Imperial	Quad Summary: Yuma West (3211466), Grays Well NE (3211467), Araz (3211476), Ogilby (3211477)
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Sources:

MCL85S0001	MCLAUGHLIN, S. & J. BOWERS - MCLAUGHLIN #2942 ARIZ #257607 1985-03-10
MCL87A0001	MCLAUGHLIN, S. ET AL. - VASCULAR PLANTS OF EASTERN IMPERIAL COUNTY, CA. MADRONO VOL. 34, NO. 4, PP. 359-378, 1987. 1987-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 36276
Key Quad: Ogilby (3211477)
Occurrence Number: 1

EO Index: 31273
Element Code: PDFAB0N040
Occurrence Last Updated: 2014-08-25

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1990-XX-XX
Last Survey Date: 1990-XX-XX
Owner/Manager: BLM?
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 VICINITY OF AMERICAN GIRL MINE, CARGO MUCHACHO MOUNTAINS, EAST OF OGILBY.

Detailed Location:
 E POLYGON: EXACT LOCATION OF POPULATION(S) NOT PROVIDED; PROJECT SITES ARE WITHIN LARGE PORTIONS OF T15S R21E SECTIONS 17, 18, 19 AND THE SW 1/4 OF SEC 20. W POLYGON: EXACT LOCATION UNKNOWN; MAPPED BASED ON TRS FROM 1978 SEARS COLLECTION.

Ecological:
 GROWING IN SHALLOW, STABLE HEAD WASHES AT THE BASE OF THE MOUNTAINS AND ON THE SHALLOW FAN WASHES OUT ON THE ALLUVIAL FANS WHERE THE WASHES BRANCH OUT AND FLOOD WATERS LOSE VELOCITY. DESERT PAVEMENT & WASHES; SANDY SOIL; WITH LARREA.

Threats:
 MINING ACTIVITY. PLANTS REPORTEDLY RECOLONIZE DISTURBED AREAS.

General:
 W POLYGON IS BASED ON A 1978 SEARS COLLECTION FROM "1 MI N OF OGILBY, 2 MI DOWN DESERT RAT TRAILER PARK RD" WITH GIVEN TRS "T15S R20E S24 & S25" AND GIVEN ELEVATION OF 500 TO 650 FT. E POLYGON OBSERVED IN 1990. NEEDS FIELDWORK.

PLSS: T15S, R21E, Sec. 17 (S)	Accuracy: non-specific area	Area (acres): 3,278
UTM: Zone-11 N3636835 E706926	Latitude/Longitude: 32.85010 / -114.78884	Elevation (feet): 1,000

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
 NEW91U0001 NEWTON, G. - PORTION OF ENVIRONMENTAL DOCUMENT FOR AMERICAN GIRL CANYON PROJECT AND MESQUITE PROJECT. 1991-03-06
 SEA78S0009 SEARS - SEARS #776 SEINET #3107285, FLD #4678 1978-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36283
Key Quad: Ogilby (3211477)
Occurrence Number: 2

EO Index: 31280
Element Code: PDFAB0N040
Occurrence Last Updated: 1997-07-30

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1979-04-29
Last Survey Date: 1979-04-29
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 ALONG RAILROAD ACCESS ROAD 2.2 MILES SOUTHEAST OF CACTUS, PILOT KNOB MESA.

Detailed Location:
 NEAR RAILROAD BRIDGE 714-12.

Ecological:
 ROCKY WASH CHANNEL. CREOSOTE BUSH SCRUB WITH BEBBIA, OLNEYA, AND CERCIDIUM.

Threats:

General:
 ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1979 COLLECTION BY DAVIDSON ET AL.

PLSS: T15S, R20E, Sec. 21 (S)	Accuracy: non-specific area	Area (acres): 85
UTM: Zone-11 N3635628 E699398	Latitude/Longitude: 32.84061 / -114.86950	Elevation (feet): 390

County Summary:	Quad Summary:
Imperial	Ogilby (3211477), Cactus (3211478)

Sources:
 DAV79S0001 DAVIDSON, C. ET AL. - DAVIDSON #7803 HSC #66468, POM #347335 1979-04-29



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36278
Key Quad: Ogilby (3211477)
Occurrence Number: 3

EO Index: 31275
Element Code: PDFAB0N040
Occurrence Last Updated: 2014-08-25

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
SONORAN DESERT SCRUB.

Micro Habitat:
SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1958-03-20
Last Survey Date: 2013-03-10
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
3.5 MILES NORTH OF OGILBY ON ROAD TO BLYTHE.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BASED ON 1958 BALLS COLLECTION WITH GIVEN ELEV OF 499 FT. A 1937 WIGGINS COLLECTION FROM "3.5 MI N OF OGILBY ON ROAD TO PALO VERDE, ELEV 440 FT" IS ATTRIBUTED HERE; ELEV DOES NOT MATCH LOCALITY.

Ecological:

GRAVELLY SLOPES AND RUNNEL-INTERFLUVE SYSTEM. PONDEROSA PINE COMMUNITY IN CLAY SOIL, SOUTH ASPECT.

Threats:

General:

MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1958 BALLS COLLECTION. A 1940 WOGLUM COLLECTION FROM "4 MILES NORTH OF OGILBY" IS ALSO ATTRIBUTED TO THIS SITE. BELL SURVEYED THIS AREA IN 2013, BUT NO PLANTS WERE FOUND.

PLSS: T15S, R20E, Sec. 11, SW (S)	Accuracy: non-specific area	Area (acres): 31
UTM: Zone-11 N3638658 E702214	Latitude/Longitude: 32.86740 / -114.83877	Elevation (feet): 499

County Summary:

Imperial

Quad Summary:

Ogilby (3211477)

- Sources:**
- BAL58S0015 BALLS, E. & P. EVERETT - BALLS #22923 SD #48547, RSA #124333 1958-03-20
 - BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
 - WIG37S0002 WIGGINS, I. - WIGGINS #8557 POM #265282, DS #278459, SEINET #902098, ARIZ #137709 1937-02-17
 - WOG40S0014 WOGLUM, R. - WOGLUM #2460 RSA #28737 & 630291, SEINET #2011354, SJNM 1940-03-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36282	EO Index: 31279
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 5	Occurrence Last Updated: 2010-07-09

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status: Federal: None	Rare Plant Rank: 2B.3
State: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
CNDDDB Element Ranks: Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1987-01-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1987-01-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
IN WASHES ALONG THE HYDUKE MINE ROAD NORTH OF THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:
ALONG ROAD ON THE SOUTH SIDE OF INDIAN WASH. MAPPED AS LARGE AREA EXTENDING FROM T14S R20E S 1/2 SEC 13 AT THE W END TO T14S R21E N 1/2 SEC 10 (PROJECTED) AT THE E END. APPARENTLY RESTRICTED TO "BLUE DOTTED LINE" WASHES ON MAP PROVIDED.

Ecological:
LOW TOTAL COVER (<5%) IN SMALL WASHES WITH LARREA TRIDENTATA, FOQUIERIA SPLENDENS, FRANSERIA DUMOSA, ACACIA GREGGII, AND KRAMERIA PARVIFLORA. LARGER WASHES SUPPORT OLNEYA TESOTA-CERCIDIUM FLORIDUM WOODLAND.

Threats:
General:
FEWER THAN 5 PLANTS PER ACRE OBSERVED BY HOLLAND AND DAINS IN 1987.

PLSS: T14S, R21E, Sec. 17 (S)	Accuracy: non-specific area	Area (acres): 757
UTM: Zone-11 N3647996 E706948	Latitude/Longitude: 32.95070 / -114.78611	Elevation (feet): 720

County Summary: Imperial	Quad Summary: Picacho Peak (3211486), Hedges (3211487)
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Sources:
HOL87F0070 HOLLAND, R. & V. DAINS - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 1987-01-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 36284

EO Index: 31281

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 6

Occurrence Last Updated: 2008-09-05

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1932-04-05

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1932-04-05

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

NEAR TUMCO IN THE CARGO MUCHACHO MOUNTAINS.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS IN THE VICINITY OF THE TUMCO MINE NEAR THE HEAD OF TUMCO WASH.

Ecological:

IN SMALL GULLIES.

Threats:

General:

SITE KNOWN FROM A 1932 COLLECTION BY MUNZ & HITCHCOCK. NEEDS FIELDWORK.

PLSS: T15S, R20E, Sec. 12 (S)

Accuracy: 3/5 mile

Area (acres): 0

UTM: Zone-11 N3640164 E704289

Latitude/Longitude: 32.88060 / -114.81628

Elevation (feet):

County Summary:

Imperial

Quad Summary:

Ogilby (3211477), Hedges (3211487)

Sources:

MUN32S0020 MUNZ, P. & C. HITCHCOCK - MUNZ #12134 POM #184095, DS #221047 & #690509 1932-04-05



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62018	EO Index: 62054
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 13	Occurrence Last Updated: 2005-07-19

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1991-04-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1991-04-10	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
IN AND ADJACENT TO INDIAN WASH; 6 MILES NORTH OF CARGO MUCHACHO MOUNTAINS, AND 7 TO 8 MILES NORTH OF HEDGES.

Detailed Location:
AROUND 800 FOOT ELEVATION.

Ecological:
DESERT PAVEMENT/DESERT WASH. FOUND WITH FOUQUIERIA SPLENDENS, LARREA TRIDENTATA, AMBROSIA DUMOSA, OLNEYA TESOTA, ENCELIA FARINOSA, ET AL.

Threats:

General:
1991 LARUE COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.

PLSS: T14S, R21E, Sec. 05 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3651157 E707383	Latitude/Longitude: 32.97910 / -114.78074	Elevation (feet): 800

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
LAR91S0001 LARUE, E. - LARUE #91-32 UCR #67337, RSA #528113, CAS #850219, SEINET #902096, ARIZ #294039 1991-04-10



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62020

EO Index: 62056

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 14

Occurrence Last Updated: 2005-07-19

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
Botanic Garden

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2001-03-26

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2001-03-26

Occurrence Rank: Fair

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

1.4 AIR MILES NNW OF GOLD ROCK RANCH.

Detailed Location:

IN THE NW 1/4 OF THE SW 1/4 OF SECTION 34.

Ecological:

STRINGER WASH, FOUND WITH OCOTILLO, CREOSOTE BUSH, AND WHITE BURSAGE.

Threats:

THREATENED BY NORTH BAJA PIPELINE PROJECT, LITTER, AND ORV USE.

General:

10 PLANTS SEEN IN 2001.

PLSS: T14S, R20E, Sec. 34, SW (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3642412 E699726

Latitude/Longitude: 32.90170 / -114.86453

Elevation (feet): 545

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62021	EO Index: 62057
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 15	Occurrence Last Updated: 2005-07-19

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ABOUT 0.7 AIR MILE NNE OF GOLD ROCK RANCH, NORTHWEST OF HEDGES.

Detailed Location:

Ecological:
FOUND WITH OCOTILLO, CREOSOTE BUSH, CHOLLA, WHITE BURSAGE, IRONWOOD, CAT CLAW, AND BOX THORN.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT.

General:
84 PLANTS TOTAL (FOR 8 SMALL COLONIES) OBSERVED IN 2001.

PLSS: T15S, R20E, Sec. 03, NW (S)	Accuracy: specific area	Area (acres): 39
UTM: Zone-11 N3641423 E700606	Latitude/Longitude: 32.89262 / -114.85533	Elevation (feet): 540

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62023

EO Index: 62059

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 16

Occurrence Last Updated: 2014-08-22

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2013-03-10

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2013-03-10

Occurrence Rank: Good

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

0.7 AIR MILE NORTHWEST OF HEDGES, 0.2 TO 0.6 MILE NORTH OF TUMCO WASH. NW SLOPES OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

IN THE SE 1/4 OF SECTION 3 AND THE SW 1/4 OF SECTION 2. 1958 BACIGALUPI COLLECTION FROM 4.8 MI N OF OGILBY, ON NW SLOPES OF CARGO MUCHACHO MTNS AND 1941 ALEXANDER & KELLOGG COLLECITON FROM 5 MI N OF OGILBY ALSO ATTRIBUTED TO THIS SITE.

Ecological:

OPEN ROCKY AREAS WITH SMALL DRAINAGES AND MICROPHYLL WOODLAND. FOUND WITH CREOSOTE BUSH, CHOLLA, WHITE BURSAGE, OCOTILLO, IRONWOOD, GALLET, LUPINE, AND WHITE RATANY.

Threats:

THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER, DUMPING, AND ORV USE MAY ALSO THREATEN.

General:

91 PLANTS TOTAL OBSERVED IN 2001. GREATER THAN 30 PLANTS OBSERVED IN THE SE CORNER OF POLYGON IN 2013.

PLSS: T15S, R20E, Sec. 02, SW (S)

Accuracy: specific area

Area (acres): 72

UTM: Zone-11 N3640268 E701986

Latitude/Longitude: 32.88196 / -114.84084

Elevation (feet): 560

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

- ALE41S0025 ALEXANDER, A. & L. KELLOGG - ALEXANDER #1894 POM #211622, A #366147, DS #333554, SEINET #902097, ARIZ #34444 1941-03-04
- AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26
- AND13S0001 ANDRE, J. - ANDRE #24103 RSA #806146 2013-03-04
- BAC58S0014 BACIGALUPI, R. & P. HUTCHINSON - BACIGALUPI #6123 JEPS #22127 1958-02-17
- BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62024	EO Index: 62060
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 17	Occurrence Last Updated: 2005-07-19

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.3 MILES NORTHWEST OF HEDGES.

Detailed Location:
SOUTH EDGE OF SW 1/4 OF SW 1/4 OF SECTION 35.

Ecological:
FOUND WITH WHITE BURSAGE, OCOTILLO, AND CREOSOTE BUSH.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
2 PLANTS SEEN IN 2001.

PLSS: T14S, R20E, Sec. 35, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3641836 E701852	Latitude/Longitude: 32.89612 / -114.84194	Elevation (feet): 605

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62025	EO Index: 62061
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 18	Occurrence Last Updated: 2008-09-05

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
1.8 AIR MILES NORTHEAST OF GOLD ROCK RANCH, NORTHWEST OF HEDGES.

Detailed Location:
NE 1/4 OF NW 1/4 OF SW 1/4 OF SECTION 35.

Ecological:
FOUND WITH CREOSOTE BUSH, WHITE BURSAGE, PALO VERDE, IRONWOOD.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
5 PLANTS SEEN IN 2001. A 1932 PERISON COLLECTION FROM "6 MILES NORTH OF OGILBY" IS ALSO ATTRIBUTED TO THIS SITE.

PLSS: T14S, R20E, Sec. 35, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3642614 E701643	Latitude/Longitude: 32.90317 / -114.84399	Elevation (feet): 615

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:

AND01F0024	ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26
PEI32S0009	PEIRSON, F. - PEIRSON #9788 RSA #86977, DS #690508 1932-03-21



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62028	EO Index: 62064
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 19	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status: Federal: None	Rare Plant Rank: 2B.3
State: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
CNDDDB Element Ranks: Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
SOUTH OF INDIAN WASH; ON WEST SIDE OF TRANSMISSION LINE, ABOUT 2.2 TO 3.3 AIR MILES NNW OF HEDGES.

Detailed Location:
EAST EDGE OF SECTION 27, THE SW 1/4 OF SW 1/4 OF SECTION 26, AND NW 1/4 OF NW 1/4 OF SECTION 35.

Ecological:
FOUND WITH CREOSOTE BUSH, OCOTILLO, WHITE BURSAGE, CHOLLA, PALO VERDE, IRONWOOD, AFRICAN MUSTARD, ENCELIA, WHITE RATANY, MEDITERRANEAN GRASS, AND BOX THORN.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
56 PLANTS TOTAL (FOR 11 COLONIES) OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 27, E (S)	Accuracy: specific area	Area (acres): 75
UTM: Zone-11 N3644485 E701088	Latitude/Longitude: 32.92013 / -114.84952	Elevation (feet):

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 62030	EO Index: 62066
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 20	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
NORTH OF INDIAN WASH; ON WEST SIDE OF TRANSMISSION LINE, 5.4 AIR MILES NNW OF HEDGES.

Detailed Location:
IN THE SE 1/4 OF THE SW 1/4 OF SECTION 10.

Ecological:
FOUND WITH WHITE BURSAGE, CREOSOTE BUSH, OCOTILLO, AND ENCELIA.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
5 PLANTS OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 10, SW (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3648284 E700188	Latitude/Longitude: 32.95455 / -114.85831	Elevation (feet): 650

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62032	EO Index: 62068
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 21	Occurrence Last Updated: 2005-07-20

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Excellent
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
6.3 AIR MILES SW OF INDIAN PASS; ABOUT 2 AIR MILES NW OF INDIAN WASH, NW OF HEDGES.

Detailed Location:
NW 1/4 OF SECTION 10, AND INTO SW 1/4 OF SW 1/4 OF SECTION 3.

Ecological:
FOUND WITH WHITE BURSAGE, IRONWOOD, GALLETA, BOX THORN, WHITE RATANY, AFRICAN MUSTARD, CREOSOTE BUSH, OCOTILLO, MEDITERRANEAN GRASS, AND ENCELIA.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO THREATEN.

General:
304 PLANTS TOTAL (FOR 6 COLONIES) OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 10, NW (S)	Accuracy: specific area	Area (acres): 40
UTM: Zone-11 N3649280 E699895	Latitude/Longitude: 32.96358 / -114.86123	Elevation (feet): 690

County Summary:	Quad Summary:
Imperial	Hedges (3211487)

Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 62091	EO Index: 62127
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 30	Occurrence Last Updated: 2005-07-22

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 2001-03-26	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2001-03-26	Occurrence Rank: Fair
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALONG WEST SIDE OF TRANSMISSION LINE, 3.1 MILES NORTHWEST OF INDIAN WASH.

Detailed Location:
IN THE SE 1/4 OF THE NE 1/4 OF SECTION 4, AND INTO SW 1/4 OF THE NW 1/4 OF SECTION 3.

Ecological:
STRINGER WASH FOUND WITH IRONWOOD, CREOSOTE BUSH, ENCELIA, AND WHITE BURSAGE.

Threats:
THREATENED BY NORTH BAJA PIPELINE PROJECT. LITTER AND ORV USE MAY ALSO BE THREATS.

General:
15 PLANTS OBSERVED IN 2001.

PLSS: T14S, R20E, Sec. 04, NE (S)	Accuracy: specific area	Area (acres): 8
UTM: Zone-11 N3650791 E699529	Latitude/Longitude: 32.97726 / -114.86482	Elevation (feet): 710

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
AND01F0024 ANDERSON, B. & J. SCHEFFEL - FIELD SURVEY FORM FOR CALLIANDRA ERIOPHYLLA 2001-03-26



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Map Index Number: 62098
Key Quad: Ogilby (3211477)
Occurrence Number: 31

EO Index: 62134
Element Code: PDFAB0N040
Occurrence Last Updated: 2014-08-25

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1978-04-30
Last Survey Date: 2013-03-10
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 IN WASH ON ROAD S34 (OGILBY ROAD) NORTH OF I-8.

Detailed Location:
 EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG S34 NEAR AMERICAN GIRL WASH NORTH OF OGILBY.

Ecological:
 WASH WOODLAND WITH OLNEYA, CERCIDIUM FLORIDUM, KRAMERIA GRAYI, LARREA, ETC. OPEN ROCKY AREAS WITH SMALL DRAINAGES AND MICROPHYLL WOODLAND.

Threats:
General:
 1978 LATTING COLLECTION IS THE MAIN SOURCE OF INFORMATION FOR THIS SITE. BELL SURVEYED THIS AREA IN 2013, BUT NO PLANTS WERE FOUND.

PLSS: T15S, R20E, Sec. 26, W (S)	Accuracy: non-specific area	Area (acres): 112
UTM: Zone-11 N3634801 E702396	Latitude/Longitude: 32.83260 / -114.83766	Elevation (feet): 400

County Summary: Imperial	Quad Summary: Ogilby (3211477)
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Sources:
 BEL13U0002 BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
 LAT78S0002 LATTING, J. - LATTING SN UCR #137366 1978-04-30



Occurrence Report

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Map Index Number: 72157
Key Quad: Ogilby (3211477)
Occurrence Number: 35

EO Index: 73122
Element Code: PDFAB0N040
Occurrence Last Updated: 2008-09-05

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G5
 State: S3

Rare Plant Rank: 2B.3
Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 SONORAN DESERT SCRUB.

Micro Habitat:
 SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1970-04-06
Last Survey Date: 1970-04-06
Owner/Manager: BLM
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 3 MILES EAST OF OGILBY, ON DIRT ROAD WEST OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:
 EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS A BEST GUESS.

Ecological:
 LOW DESERT SCRUB, SANDY SOIL.

Threats:
General:
 ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1970 COLLECTION BY NIILUS. NEEDS FIELDWORK.

PLSS: T15S, R21E, Sec. 31 (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633145 E706984	Latitude/Longitude: 32.81682 / -114.78905	Elevation (feet): 360

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:
 NII70S0001 NILUS, T. - NIILUS #173 RSA #658024 1970-04-06



Occurrence Report
California Department of Fish and Wildlife
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Map Index Number: 72161

EO Index: 73127

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 38

Occurrence Last Updated: 2014-08-27

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 2013-03-04

Occurrence Type: Natural/Native occurrence

Last Survey Date: 2013-03-04

Occurrence Rank: Unknown

Owner/Manager: BLM

Trend: Unknown

Presence: Presumed Extant

Location:

ON BLM RD 664, 0.5 MILE EAST OF OGILBY RD, CARGO MUCHACO MOUNTAINS.

Detailed Location:

MAPPED ACCORDING TO COORDINATES PROVIDED ON A 2013 ANDRE COLLECTION, IN THE NW 1/4 OF THE SE 1/4 OF SECTION 26.

Ecological:

SPARSELY VEGETATED GRAVELLY TO ROCKY VOLCANIC HILLS AND PAVEMENTS. ASSOCIATED WITH ENCELIA FARINOSA, FOUQUIERIA, AMBROSIA DUMOSA, ERIOGONUM THOMASII, LARREA TRIDENTATA, AND FAGONIA PACHYACANTHA.

Threats:

General:

MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2013 ANDRE COLLECTION; DESCRIBED AS "OCCASIONAL". A 2001 COLLECTION BY PITZER & BALLMER FROM "VICINITY OF INDIAN WASH, 13.9 MILES SOUTH OF HIGHWAY 78 ON OGILBY RD" IS ALSO ATTRIBUTED HERE.

PLSS: T14S, R20E, Sec. 26, SE (S)

Accuracy: 80 meters

Area (acres): 0

UTM: Zone-11 N3644031 E702274

Latitude/Longitude: 32.91583 / -114.83695

Elevation (feet): 640

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

AND13S0002 ANDRE, J. - ANDRE #24139 RSA #806150 2013-03-04

PIT01S0001 PITZER, B. & G. BALLMER - PITZER #4264 UCR #163763 2001-03-17



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 79366	EO Index: 80349
Key Quad: Hedges (3211487)	Element Code: PDFAB0N040
Occurrence Number: 42	Occurrence Last Updated: 2010-07-09

Scientific Name: <i>Calliandra eriophylla</i>	Common Name: pink fairy-duster
Listing Status:	Rare Plant Rank: 2B.3
Federal: None	Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
State: None	
CNDDDB Element Ranks:	
Global: G5	
State: S3	

General Habitat: SONORAN DESERT SCRUB.	Micro Habitat: SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.
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Last Date Observed: 1998-03-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1998-03-22	Occurrence Rank: Unknown
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
APPROXIMATELY 1 MILE EAST OF OGILBY ROAD AND SOUTH OF INDIAN PASS ROAD, NORTH END OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:
MAPPED BY CNDDDB AS BEST GUESS BASED ON COORDINATES ON COLLECTION LABEL; COORDINATES ARE FROM 1998 WITH NO DATUM SPECIFIED.

Ecological:
VOLCANIC SUBSTRATES WITH LARREA TRIDENTATA, OLNEYA TESOTA, AND FOUQUIERIA SPLENDENS.

Threats:
General:
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1998 REBMAN COLLECTION.

PLSS: T14S, R20E, Sec. 25, NW (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3644635 E703112	Latitude/Longitude: 32.92112 / -114.82786	Elevation (feet): 787

County Summary: Imperial	Quad Summary: Hedges (3211487)
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Sources:
REB98S0001 REBMAN, J. ET AL. - REBMAN #4946 UCR #112167, SD #144883, RSA #643389 1998-03-22



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California Department of Fish and Wildlife

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Map Index Number: 86962

EO Index: 87923

Key Quad: Hedges (3211487)

Element Code: PDFAB0N040

Occurrence Number: 49

Occurrence Last Updated: 2012-10-16

Scientific Name: *Calliandra eriophylla*

Common Name: pink fairy-duster

Listing Status: **Federal:** None

Rare Plant Rank: 2B.3

State: None

Other Lists: SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden

CNDDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

SONORAN DESERT SCRUB.

Micro Habitat:

SANDY OR ROCKY SITES IN THE DESERT. 105-1015 M.

Last Date Observed: 1985-03-09

Occurrence Type: Natural/Native occurrence

Last Survey Date: 1985-03-09

Occurrence Rank: Unknown

Owner/Manager: UNKNOWN

Trend: Unknown

Presence: Presumed Extant

Location:

ENTRENCHED WASH NORTH END OF CARGO MUCHACHO MOUNTAINS.

Detailed Location:

MAPPED ALONG WASH NEAR COORDINATES PROVIDED ON HERBARIUM PRINTOUT FOR 1985 MCLAUGHLIN COLLECTION. SOURCE OF COORDINATES IS UNKNOWN; COORDINATES ARE LOCATED ON A SLOPE ON THE SOUTH SIDE OF THE WASH.

Ecological:

ASSOCIATED WITH ASCLEPIAS ALBICANS.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1985 MCLAUGHLIN COLLECTION. NEEDS FIELDWORK.

PLSS: T14S, R20E, Sec. 36 (S)

Accuracy: non-specific area

Area (acres): 73

UTM: Zone-11 N3642459 E704203

Latitude/Longitude: 32.90129 / -114.81668

Elevation (feet): 800

County Summary:

Imperial

Quad Summary:

Hedges (3211487)

Sources:

MCL85S0005 MCLAUGHLIN, S. & J. BOWERS - MCLAUGHLIN #2931, SEINET #902093, ARIZ #257518 1985-03-09



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 46437	EO Index: 46437
Key Quad: Glamis (3211581)	Element Code: PDLNN02020
Occurrence Number: 2	Occurrence Last Updated: 2019-01-03

Scientific Name: <i>Pholisma sonorae</i>	Common Name: sand food
Listing Status:	Rare Plant Rank: 1B.2
Federal: None	Other Lists: BLM_S-Sensitive
State: None	SB_CalBG/RSABG-California/Rancho Santa Ana
CNDDDB Element Ranks:	Botanic Garden
Global: G2	
State: S2	

General Habitat: DESERT DUNES, SONORAN DESERT SCRUB.	Micro Habitat: LOOSE, DEEP SAND DUNES, USUALLY ON THE MORE STABLE, WINDWARD FACE. 0-125 M.
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Last Date Observed: 2018-04-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2018-04-22	Occurrence Rank: Good
Owner/Manager: BLM	Trend: Unknown
Presence: Presumed Extant	

Location:
ALGODONES DUNES.

Detailed Location:
MAPPED BY CNDDDB TO ENCOMPASS VARIOUS SOURCES OF MAP INFORMATION. INCLUDES FORMER EO #S 3-11, 13-25, 28-41, 43-45, 47-49, 51, 52. IN 2013, THE 4 PLANTS OBSERVED N OF HWY 78 WERE THE ONLY INDIVIDUALS SEEN OVER A LARGE AREA.

Ecological:
MOST COMMONLY FOUND IN SHELTERED STABILIZED SAND DUNES BUT IT MAY OCCUR IN LOOSE DEEP SAND ON THE WINDWARD FACES OF SAND DUNES. ROOT PARASITE ON COLDENIA PPLICATA, ERIOGONUM DESERTICOLA, AND COLDENIA PALMERI.

Threats:
ORV ACTIVITY, BORDER PATROL USE.

General:
SEEN IN 1977 THROUGHOUT DUNES. POPULATION NUMBERS FOR PARTS OF OCC: 571 IN 1994, ~486 FLOWER HEADS IN '98, 385 IN '99, 1576 IN '00, 3740 IN '01, 3317 IN '02, 78,417 IN '04, 4 IN '13, 24 IN '17, 94 IN '18.

PLSS: T14S, R18E, Sec. 57, N (S)	Accuracy: specific area	Area (acres): 78,858
UTM: Zone-11 N3640419 E682852	Latitude/Longitude: 32.88668 / -115.04526	Elevation (feet): 300

County Summary: Imperial	Quad Summary: Grays Well NE (3211467), Grays Well (3211468), Ogilby (3211477), Cactus (3211478), Clyde (3211488), Glamis SE (3211571), Glamis (3211581), Glamis NW (3211582), East of Acolita (3311511), Acolita (3311512), Amos (3311513), Tortuga (3311523)
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Sources:

ANO36S0002	ANONYMOUS - ANONYMOUS SN SD #15582 1936-05-XX
AUB59S0001	AUBREY, F. - AUBREY SN UCR #16469 1959-04-25
BAR66S0001	BARR, R. - BARR #66-36 US ARIZ #161673 (AS CITED IN WAR87R0001) 1966-05-30
BEL13U0002	BELL, D. - OBSERVATIONS OF RARE PLANT TAXA FROM DESERT CNPS RARE PLANT TREASURE HUNT SURVEYS, SPRING 2013 2013-03-XX
BEN10I0002	BENNETT, A. - PHOTOS OF PHOLISMA SONORAE, CALPHOTOS ID #0000 0000 0510 2064-2072 2010-05-16
BEZ65S0001	BEZY, R. - BEZY SN UA #231779 (AS CITED IN WAR87R0001) 1965-05-28
BLM00R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: RESULTS OF 1998 MONITORING AND COMPARISON WITH THE DATA FROM WESTECS 1977 MONITORING STUDY 2000-11-XX
BLM01R0001	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, AND 2000 2001-06-XX



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BLM04R0002	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA: 1977, 1998, 1999, 2000, 2001, AND 2002 2004-10-XX
BLM04R0003	BLM-BUREAU OF LAND MANAGEMENT - MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA, RESULTS OF 2003 PILOT SAMPLING 2004-01-05
BLM05R0001	BLM-BUREAU OF LAND MANAGEMENT - 2004 MONITORING OF SPECIAL STATUS PLANTS IN THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA 2005-03-24
BLM80M0001	BUREAU OF LAND MANAGEMENT - CALIFORNIA DESERT CONSERVATION AREA - MAP OF RARE, THREATENED, AND ENDANGERED PLANT SPECIES 1980-XX-XX
BLM86R0002	BLM-BUREAU OF LAND MANAGEMENT - PROPOSED 1985 PLAN AMENDMENTS VOL. 2 1986-01-XX
BRU17F0017	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-05
BRU17F0020	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-06
BRU17F0021	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-06
BRU17F0022	BRUNER, C. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2017-04-05
BRU18F0021	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-27
BRU18F0035	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-29
BRU18F0040	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-03-29
BRU18F0045	BRUNER, C. ET AL. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-04-22
CAR73S0005	CARLQUIST, S. & WALLACE - CARLQUIST #4365 RSA #239048, SD #90614, NY #37805, CAS #577823, MO #100679897, SEINET #10847674, CAS-BOT-BC #230596 1973-05-14
CHA08I0001	CHARTERS, M. - PHOTOS OF PHOLISMA SONORAE, CALPHOTOS ID #0000 0000 0508 0614-0620 2008-05-05
CHM00R0001	CH2M HILL - IMPERIAL IRRIGATION DISTRICT (IID)/SAN DIEGO COUNTY WATER AUTHORITY (SDCWA) WATER CONSERVATION AND TRANSFER PROJECT EIR/EIS, SCOPING SUMMARY REPORT 2000-03-10
COO36S0001	COOK, L. - COOK SN UCR #95847 SD #16026 1936-06-13
COT67S0001	COTHRUN, D. - COTHRUN SN ASU #37347 (AS CITED IN WAR87R0001) 1967-07-07
COX63S0001	COX, G. - COX SN SDSU #7874 1963-04-28
DAV79F0001	DAVIDSON, C. ET AL. - FIELD SURVEY FORM FOR ASTRAGALUS MAGDALENAE VAR. PEIRSONII & PHOLISMA SONORAE 1979-04-28
DAV79S0010	DAVIDSON, C. ET AL. - DAVIDSON #7759 RSA #446408 1979-04-28
DAV79S0011	DAVIDSON, C. ET AL. - DAVIDSON #7793 RSA #446407, HSC #82769 1979-04-28
DEF34S0001	DEFOREST, H. - DE FOREST #18614 RSA #446409 1934-03-29
DICNDU0001	DICE, J. - LOCATION OF PHOLISMA SONORAE IN COMMENTS OF SKI95F0013. XXXX-XX-XX
DIR03S0001	DIRIDONI, G. - DIRIDONI SN SD #243934 2003-01-21
ENG79S0001	ENGARD, R. - ENGARD #1132 DBG (AS CITED IN WAR87R0001) 1979-04-14
FIL18F0005	FILLIPI, D. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 2018-04-18
GIL28S0005	GILMAN, M. - GILMAN SN POM #145275 & #145276, SBBG #59874, CAS #154857, DS #171324, CAS-BOT-BC #230598 & #230595 1928-04-25
GUI08S0006	GUILLIAMS, C. & J. MARSHALL - GUILLIAMS #634 (A-D) SDSU #18394, #18388, #18364, & #18358 2008-04-23
GUS83S0013	GUSTAFSON, R. & KEELEY - GUSTAFSON #2571 RSA #446405 1983-05-06
HAR65S0004	HARWOOD, R. - HARWOOD SN SDSU #7880 1965-05-09
HEN64S0001	HENRICKSON, J. & RUTHERFORD - HENRICKSON #1836 RSA #182256, GH #376183 1964-05-16
HIL01S0005	HILL, S. & K. KRAMER - HILL #33499 UCR #123800, ILLS #211703, SEINET #7048030 2001-04-27
HOW64S0006	HOWE, D. - HOWE #3761 SDSU #8108 1964-04-12
HOW64S0007	HOWE, D. - HOWE #10193 RSA #172241 & #446406 1964-05-13
KOL46S0001	KOLUVEK, P. - KOLUVEK SN UC #775203, NY #37804, DS #342223, MO #100679895, SEINET #10946708, CAS-BOT-BC #230599 1946-06-11
LUC83R0001	LUCKENBACH, R. A. & R. B. BURY - EFFECTS OF OFF-ROAD VEHICLES ON THE BIOTA OF THE ALGODONES DUNES, IMPERIAL COUNTY, CALIFORNIA; JOURNAL OF APPLIED ECOLOGY (1983); 20; PG. 265-286 1983-XX-XX
MCC93R0003	MCCALVIN, C. (U.S. FISH AND WILDLIFE SERVICE) - SURVEYS FOR SEVEN RARE PLANT SPECIES, THE FLAT-TAILED HORNED LIZARD, AND THE COLORADO DESERT FRINGED-TOED LIZARD, ALL-AMERICAN CANAL LINING PROJECT, IMPERIAL COUNTY, CALIFORNIA 1993-08-XX
MOR81U0007	MOREY, S. - MAPS OF BOUNDED AREAS REPRESENTATIVE OF DATA POINTS FROM WES77R0004. 1981-04-24



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OESNDF0001 OESTERREIC, W. - BLM FIELD SURVEY FORM FOR PHOLISMA SONORAE XXXX-07-19
PEI32S0013 PEIRSON, M. - PEIRSON #9781 RSA #77813 1932-03-21
POR03S0028 PORTER, J. - PORTER #13491 RSA #0084082 2003-04-08
REC79R0001 U.S. BUREAU OF RECLAMATION - REPORT ON RARE PLANT POPULATIONS ALONG THE ALL AMERICAN CANAL 1979-XX-XX
ROM79R0001 ROMSPERT, A. & J. BURK - ALGODONES DUNES SENSITIVE PLANT PROJECT - C.S.U. FULLERTON PREPARED FOR BLM 1979-XX-XX
ROO49S0046 ROOS, J. - ROOS #4984 RSA #89981 1949-04-07
RYA69S0007 RYAN, J. - RYAN #50 RSA #209611 1969-04-11
SDNNDU0003 SAN DIEGO NATURAL HISTORY MUSEUM - NOTES ON GENERAL LOCATIONS OF (AMMOBROMA) PHOLISMA SONORAE. XXXX-XX-XX
SKI95F0013 SKINNER, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1995-04-08
SPJ80S0003 SPJUT, R. & J. ADAMS - SPJUT #6153 HSC #66961 1980-04-30
THO78S0030 THORNE, R. - THORNE #52167 RSA #336093 1978-05-30
THO84S0003 THORNE, R. ET AL. - THORNE #58267 RSA #331172 & #0109169, NY #37806 1984-04-27
WAL73S0004 WALLACE, G. & CARLQUIST - WALLACE #1193 RSA #257643, CAS #763732, CAS-BOT-BC #293705 1973-05-14
WAL98F0006 WALL, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1998-06-08
WAL98F0007 WALL, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1998-06-08
WAL98F0008 WALL, M. - FIELD SURVEY FORM FOR PHOLISMA SONORAE 1998-06-08
WAR87R0001 WARREN, P. & A. LAURENZI - RARE PLANTS SURVEY OF THE YUMA DISTRICT. 1987-08-XX
WED66S0002 WEDBERG, H. - WEDBERG #1234 SDSU #8102 1966-05-02
WES77R0003 WESTEC SERVICES, INC. - SURVEY OF SENSITIVE PLANTS OF THE ALGODONES DUNES - PREPARED FOR BLM. 1977-08-XX
WES77R0004 WESTEC SERVICES, INC. - SURVEY OF SENSITIVE PLANTS OF THE ALGODONES DUNES - PREPARED FOR BLM BY WESTEC. 1977-XX-XX
WIE03A0001 WIESENBORN, W. - INSECTS ON PHOLISMA SONORAE FLOWERS AND THEIR CONSPECIFIC POLLEN LOADS, MADRONO VOL. 50, NO. 2, PP. 110-114, 2003 2003-XX-XX
WIL66S0003 WILGUS, J. - WILGUS SN ARIZ #159492 (AS CITED IN WAR87R0001) 1966-05-15
YAT80S0001 YATSKIEVYCH, G. - YATSKIEVYCH #80-129 ARIZ #221475, MO #100654470, SEINET #10743474 (ALSO CITED IN WAR87R0001) 1980-04-26



Occurrence Report

California Department of Fish and Wildlife

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Map Index Number: 06550
Key Quad: Ogilby (3211477)
Occurrence Number: 12

EO Index: 46458
Element Code: PDLNN02020
Occurrence Last Updated: 2001-11-09

Scientific Name: *Pholisma sonorae*

Common Name: sand food

Listing Status: **Federal:** None
 State: None
CNDDDB Element Ranks: **Global:** G2
 State: S2

Rare Plant Rank: 1B.2
Other Lists: BLM_S-Sensitive
 SB_CalBG/RSABG-California/Rancho Santa Ana
 Botanic Garden

General Habitat:
 DESERT DUNES, SONORAN DESERT SCRUB.

Micro Habitat:
 LOOSE, DEEP SAND DUNES, USUALLY ON THE MORE STABLE,
 WINDWARD FACE. 0-125 M.

Last Date Observed: 1902-05-XX
Last Survey Date: 1902-05-XX
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 OGILBY, NEAR HEDGES MINES.

Detailed Location:
 EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS BY CNDDDB AT OGILBY.

Ecological:

Threats:

General:
 SITE BASED ON A 1902 COLLECTION BY STOCKTON. NEEDS FIELDWORK.

PLSS: T15S, R20E, Sec. 35, N (S)	Accuracy: 1 mile	Area (acres): 0
UTM: Zone-11 N3633124 E702138	Latitude/Longitude: 32.81754 / -114.84079	Elevation (feet): 400

County Summary:	Quad Summary:
Imperial	Ogilby (3211477)

Sources:

SDNNDU0003	SAN DIEGO NATURAL HISTORY MUSEUM - NOTES ON GENERAL LOCATIONS OF (AMMOBROMA) PHOLISMA SONORAE. XXXX-XX-XX
STO02S0001	STOCKTON, A. - STOCKTON SN UC #105882 1902-05-XX

													desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Croton wigginsii	Wiggins' croton	Dicots	PDEUP0H140	12	1	None	Rare	G2G3	S2	2B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes, Sonoran desert scrub	
Cyclocephala wandae	Wandae dune beetle	Insects	IICOL33020	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Ditaxis claryana	glandular ditaxis	Dicots	PDEUP080L0	26	1	None	None	G3G4	S2	2B.2	null	Desert wash, Mojavean desert scrub, Sonoran desert scrub	
Efferia macroxipha	Glamis robberfly	Insects	IIDIP07040	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	4	None	None	G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland	
Euparagia unidentata	Algodones euparagia	Insects	IIHYMBC010	3	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Gopherus agassizii	desert tortoise	Reptiles	ARAAF01012	970	13	Threatened	Threatened	G3	S2S3	null	IUCN_VU-Vulnerable	Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub	
Macrotus californicus	California leaf-nosed bat	Mammals	AMACB01010	46	11	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_H-High Priority	Riparian scrub, Sonoran desert scrub	
Melanerpes uropygialis	Gila woodpecker	Birds	ABNYF04150	62	1	None	Endangered	G5	S1	null	BLM_S-Sensitive, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Riparian forest, Riparian woodland	
Microbembex elegans	Algodones elegant sand wasp	Insects	IIHYM90010	1	1	None	None	G1G2	S1S2	null	null	Desert dunes	
Myotis velifer	cave myotis	Mammals	AMACC01050	9	1	None	None	G5	S1	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_M-Medium Priority	Riparian scrub, Sonoran desert scrub	
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	AMACD04010	90	1	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, WBWG_M-Medium Priority	Joshua tree woodland, Pinon & juniper woodlands, Riparian scrub, Sonoran desert scrub	
Palafoxia arida var. gigantea	giant spanish-needle	Dicots	PDAST6T012	6	2	None	None	G5T3?	S2	1B.3	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert dunes	
Perdita	Algodones	Insects	IIHYM01130	1	1	None	None	G1G2	S1S2	null	null	Desert	

algodones	perdita												dunes
Perdita frontalis	Imperial Perdita	Insects	IIHYM01140	2	1	None	None	G1G2	S1S2	null	null		Desert dunes
Perdita stephanomeriae	a miner bee	Insects	IIHYM01840	3	1	None	None	GNR	S1S2	null	null		Desert dunes
Pholisma sonorae	sand food	Dicots	PDLNN02020	14	2	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		Desert dunes, Sonoran desert scrub
Phrynosoma mcallii	flat-tailed horned lizard	Reptiles	ARACF12040	340	6	None	None	G3	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened		Desert dunes, Mojavean desert scrub, Sonoran desert scrub
Polioptila melanura	black-tailed gnatcatcher	Birds	ABPBK08030	34	1	None	None	G5	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern		Mojavean desert scrub, Sonoran desert scrub
Pseudocotalpa andrewsi	Andrew's dune scarab beetle	Insects	IICOL37020	29	1	None	None	G1	S1	null	null		Desert dunes, Sonoran desert scrub
Toxostoma crissale	Crissal thrasher	Birds	ABPBK06090	67	1	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern		Riparian woodland
Toxostoma lecontei	Le Conte's thrasher	Birds	ABPBK06100	238	2	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern		Desert wash, Mojavean desert scrub, Sonoran desert scrub

APPENDIX E

Photo pages



Photo 1.
Representative photo of the *Brassica (nigra) and other mustards semi-natural stands* CNPS vegetation category.



Photo 2.
Representative photo of the *Larrea tridentata Encelia farinosa alliance* CNPS vegetation category.



Photo 3.
Representative photo of the *Parkinsonia florida—Olneya tesota alliance* CNPS vegetation category.



Photo 4.
Example Observation point during raptor surveys.



Photo 5.
Example Observation point used during raptor surveys.



Photo 6.
Example Observation point used during raptor surveys.



Photo 7.
Example Observation point used during raptor surveys.



Photo 8.
Active eyrie for prairie falcon observed during raptor surveys.



Photo 9.
Active eyrie for prairie falcon observed during raptor surveys.



Photo 10.
Red-tailed hawk roost detected.



Photo 11.
Potentially suitable western burrowing owl habitat within the Analysis Area.



Photo 12.
Potentially suitable western burrowing owl habitat within the Analysis Area.



Photo 13.

Habitat assessed for Colorado desert fringe-toed lizard. Sandy area was assessed for potential habitat for the lizard.



Photo 14.

Habitat assessed for Colorado desert fringe-toed lizard.



Photo 15.

Abandoned underground mine assessed for bat use. There is a bat compatible closure (angle-iron gate) in the mine portal.



Photo 16.
Abandoned underground mine assessed for bat use.



Photo 17.
Location of Gila woodpecker historical detection location outside of Analysis Area.



Photo 18.
Representative small wash assessed for Gila woodpecker habitat within the Analysis Area.



Photo 19.
Active desert tortoise burrow observed.

APPENDIX F

BLM Sensitive Species 'Non' List

Appendix F. BLM Sensitive Species for the El Centro Field Office with a Potential to Occur of “None”.

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
AMPHIBIANS					
<i>Lithobates yavapaiensis</i> Lowland leopard frog	Occurs in a variety of perennial to near perennial waters in desert grasslands to pinyon juniper biotic communities (AGFD 2006). Inhabits large rivers, streams, canals, cienegas, cattle tanks or other aquatic features (Rorabaugh 2008). Can survive in semi-permanent aquatic systems by retreating into deep mud cracks, mammal burrows, or rock fissures, but large pools are required for adult survival and reproductive efforts (Bureau of Reclamation 2016). Elevation: In California, from near sea level to 5,961 ft (CDFW 2018).	Historic range included Arizona, California, Nevada, New Mexico, U.S. and extreme northeastern Baja California, northern Sonora, and possibly northwestern Chihuahua, Mexico (AGFD 2006, Bureau of Reclamation 2016). Current range is restricted to southern Arizona and adjacent portions of Sonora (Bureau of Reclamation 2016).	Assumed to be extirpated from California, otherwise extremely rare (CDFW 2018). Historically inhabited San Bernardino, Riverside and Imperial counties, along the Colorado River Valley and Imperial Valley (CDFW 2018).	None. There is no perennial water in the Analysis Area and this species is considered extirpated from California.	
BIRDS					
<i>Agelaius tricolor</i> Tricolored blackbird	Occupies areas near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs (CDWF 2008c). Feeds in grasslands and cropland habitats. Seeks cover in emergent wetland vegetation and also in trees and shrubs (CDWF 2008c).	Historically the ranged throughout most of lower-elevation California, with smaller nesting colonies known from Baja California, Nevada, and Oregon (USFWS 2019). The majority of the breeding population was found in the Central Valley, along the California coast, in the Sierra Nevada foothills, and in southern California (USFWS 2019).	Common locally throughout Central Valley and in coastal districts from Sonoma County (CDWF 2008c). More widespread in winter along the central coast and San Francisco Bay area and in portions of the Colorado Desert (CDWF 2008c).	None. The Analysis Area does not contain appropriate habitat for this species are no occurrence records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).	
<i>Charadrius montanus</i> Mountain plover	Utilizes short grasslands, plowed fields with little vegetation, and open sagebrush areas. Avoids areas with dense cover. Nests in open areas in high-elevation grassland, often blue gramma and buffalo grass patches (CDFW 2008a). Does not nest in California (CDFW 2008a). Elevation: In California, below 3,200 ft in winter (CDFW 2008a).	Breeds in western Great Plains and Rocky Mountains States from the Canadian border to Northern Mexico (USFWS 2021). In the U.S., breeding occurs in Colorado, Montana, Nebraska, New Mexico and Wyoming and less frequently in Kansas, Oklahoma, Texas, and Utah (USFWS 2021).	In California, winter resident September through March in Central Valley from Sutler and Yuba counties southward. Also in foothills west of San Joaquin Valley, Imperial Valley, Los Angeles County, and San Bernardino County and along the central Colorado river valley (CDFW 2008a, b). Extralimital records along the northern coast (CDFW 2008a).	None. This species is only known to winter in California and is outside the known range. There are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<p><i>Colaptes chrysoides</i></p> <p>Gilded flicker</p>	<p>This species is most common in riparian areas, desert washes, and other habitats with Joshua trees or saguaro cacti (CDFW 1997). Typically avoids urban and rural neighborhoods, even when saguaros are present (CDFW 1997, Corman and Wise-Gervais 2005). This species hybridizes with the Northern Flicker (Wiebe and Moore 2017). Hybrids are typically found in riparian woodlands at the upper end of the species' elevational range (Corman 2005b). This species is non-migratory and uses similar habitats year-round (Moore, Pyle, and Wiebe 2017). Nest in soft wood of a snag or dead branches of live cottonwood, willow, Joshua tree, or saguaro cacti (CDFW 1997).</p> <p>Elevation: In Arizona, typically 200–3,200 ft but occasionally up to 4,600 ft in riparian areas (Corman 2005b).</p>	<p>This species is non-migratory (Moore, Pyle, and Wiebe 2017). Occurs in Arizona, California and Nevada, U.S. and the Mexican states of Baja California, Baja California Sur, Sinaloa and Sonora (Moore, Pyle, and Wiebe 2017).</p>	<p>Considered nearly extirpated in California (CDFW 1997).</p>	<p>None. This species is considered extirpated, the Analysis Area lacks appropriate habitat, and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).</p>	
<p><i>Laterallus jamaicensis coturniculus</i></p> <p>California black rail</p>	<p>This species breeds in tidal marshes, shallow freshwater marshes, wet meadows, flooded grassy areas and wetlands fed by irrigation with persistent emergent vegetation (Eddleman, Flores, and Legare 1994, Richmond et al. 2010). Uses areas with water depths of roughly one inch or less (Dodge 2019). The <i>coturniculus</i> subspecies is non-migratory, although juveniles disperse erratically from their natal sites (Eddleman, Flores, and Legare 1994). Uses similar habitat year-round (Eddleman, Flores, and Legare 1994). Along the Colorado River they prefer dense bulrush stands, shallow water, and gently sloping shorelines (CDFW 1990b).</p> <p>Elevation: In Arizona, 150–600 ft (AGFD 2002a, Corman 2005a).</p>	<p>The <i>coturniculus</i> subspecies occurs in Arizona and California, U.S. and Baja California and Sonora, Mexico (Eddleman, Flores, and Legare 1994, Hinojosa-Huerta et al. 2013).</p>	<p>Scarce, yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations, the Salton Sea, and lower Colorado River area (CDFW 1990b). Formerly a local resident in coastal wetlands from Santa Barbara County to San Diego County (CDFW 1990b).</p>	<p>None. The Analysis Area lacks appropriate habitat and is outside the known ranged, and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020).</p>	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Micrathene whitneyi</i> Elf owl	Occupies desert riparian habitat of moderate to open canopy, often with a moderate to sparse shrub understory, and typically bordering desert wash, desert scrub, or grassland habitats (CDFW 1990c). Taller trees with a shrub understory may be required. Utilizes moderately tall trees and snags, including cottonwood, sycamore, willow, mesquite, and saguaros often using cavities made by other birds (CDFW 1990c). Nested in cottonwood and saguaro in California but also nests in willow, sycamore, and mesquite trees or snags of moderate height (CDFW 1990c). In the Sonoran Desert regions they are found mainly in riparian habitats or in areas with numerous saguaro (Wise-Gervais 2005). Elevation: up to 7,000 ft (CDFW 1990c).	Found from the southwest U.S. to central Mexico and Baja California. Northern populations winter in central Mexico and on the Pacific slope north to Sinaloa, Mexico (Wise-Gervais 2005).	Rarely seen spring and summer resident of the Colorado River Valley. Records at Cottonwood Springs and Corn Springs in Riverside County (CDFW 1990c). Now nearly extirpated along the length of Colorado River. Reported only north of Needles, San Bernadino County, roughly 22 miles north of Blythe, Riverside County, and at Corn Springs since 1970 (CDFW 1990c).	None. This Analysis Area lacks appropriate habitat and there are no records for this species within the California Natural Diversity Database in these quadrangles (CDFW 2020)	
<i>Pelecanus occidentalis</i> Brown pelican	Inhabits estuarine, marine subtidal, and marine pelagic waters along the coasts (CDFW 1990b). Usually rests on water or inaccessible rocks, but uses mudflats, sandy beaches, wharfs, and jetties. Nests on rocky or low and brushy slopes of undisturbed islands, usually on the ground, but less often in bushes. Requires undisturbed lands adjacent to good marine fishing areas.	Found along the Atlantic, Pacific, and Gulf coasts of North and South America (USFWS 2009). Can also be found from Nova Scotia to Venezuela and on the Pacific Coast from British Columbia to south-central Chile and the Galapagos Islands (USFWS 2009). On the Gulf Coast they occur in Florida, Alabama, Louisiana, Texas, Mississippi, and Mexico. Can use the Salton Seas in California, lakes in Florida, and bodies of water in southeast Arizona (USFWS 2009).	Breeds on the Channel Islands, Anacapa in Santa Barbara and Santa Cruz counties (CDFW 1990b). Rare to uncommon on the Salton Sea and Colorado River reservoirs (CDFW 1990b).	None. The analysis area occurs outside of this species range and no suitable aquatic habitat exists within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<p><i>Strix occidentalis occidentalis</i></p> <p>California spotted owl</p>	<p>Inhabits forests and woodlands with large old trees and snags, high basal areas of trees and snags, dense canopies, multiple canopy layers, and downed woody debris (Shuford and Garadali 2008). In southern California, occupies montane hardwood and montane hardwood-conifer forests, especially with Canyon Live Oak and Bigcone Douglas fir and mid to high elevations. Uses coastal oak woodland, valley foothill riparian, and redwood forests at low elevations (Shuford and Garadali 2008)..</p> <p>Elevation: seal level in San Diego County to 6,600 ft in Tulare County (Shuford and Garadali 2008)..</p>	<p>Includes three resident subspecies: the Northern Spotted Owl (<i>S. o. caturina</i>) in the mountains of the Pacific coast from southwestern British Columbia south through western Washington and Oregon to San Francisco Bay, California; the Mexican Spotted Owl (<i>S. o. lucida</i>) in forested mountains from southern Utah and Colorado south to Michoacan Mexico; and the California Spotted Owl of northern California south along the western slope of Sierra Nevada and in mountains of central and southern California nearly to the Mexican border with three sight records from the Sierra San Pedro Matir in northern Baja California (Shuford and Garadali 2008).</p>	<p>In the southern California mountains, they are known to occur in the southern Coast ranges from Monterey County south through the Traverse and Peninsular ranges to southern San Diego County (Shuford and Garadali 2008). Detected in the Santa Cruz Mountains of San Mateo and Santa Cruz counties. Also observed in the San Bernardino Mountains (Shuford and Garadali 2008).</p>	<p>None. The analysis occurs outside this species range and no suitable forested habitat occurs within the Analysis Area.</p>	
<p><i>Vireo bellii arizonae</i></p> <p>Arizona bell's vireo</p>	<p>Inhabits low, dense riparian growth along water or intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry or mesquite in desert localities (CDFW 1990a). Utilizes thickets of willow and other low shrubs. Usually found near water (CDFW 1990a).</p> <p>Elevations: In California, summers below 2,000 ft (CDFW 1990a).</p>	<p>Primarily occurs throughout Arizona, Utah, Nevada, and Sonora Mexico and in California along the lower Colorado River (CDFW 1990a).</p>	<p>Rare summer resident along the Colorado River from Needles in San Bernardino County south to Blythe in Riverside County (CDFW 1990a). Also found at Picacho State Recreation Area and near Laguna Dam in Imperial County (CDFW 1990a).</p>	<p>None. No suitable riparian a habitat occurs within the analysis Area.</p>	
<p><i>Vireo bellii pusillus</i></p> <p>Least bell's vireo</p>	<p>Inhabits low, dense riparian growth along water or intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry or mesquite in desert localities (CDFW 1990a). Utilizes thickets of willow and other low shrubs. Usually found near water (CDFW 1990a).</p> <p>Elevations: In California, summers below 2,000 ft (CDFW 1990a).</p>	<p>Endemic to California and northern Baja California (CDFW 1990a).</p>	<p>Summer resident mostly in San Benito and Monterey counties, in coastal southern California from Santa Barbara County south, and along the western edge of the deserts in desert riparian habitat (CDFW 1990a).</p>	<p>None. No suitable riparian a habitat occurs within the analysis Area.</p>	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
MAMMALS					
<i>Myotis evotis</i> Long-eared myotis	Inhabits nearly all brush, woodland and forest habitats but coniferous woodlands and forests seem to be preferred. Roosts in buildings, crevices, under bark, and in snags(CDFW 1990g). Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but usually associated with coniferous forests (WBWG 2018). Elevation: sea level to at least 9,000 ft (CDFW 1990g).	Found across western North American from southwestern Canada (British Columbia, Alberta, and Saskatchewan) to Baja California and eastward in the U.S. to the western Great Plains (WBWG 2018).	Widespread in California but believed to be uncommon in most of its range. Avoids arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and Great Basin from the Oregon border south through the Tehachapi Mountains to the Coast Ranges (CDFW 1990g).	None. No suitable forest or woodland habitats occur within the analysis Area.	
<i>Myotis thysanodes</i> Fringed myotis	Utilizes a wide variety of habitats including pinyon-juniper, valley foothill hardwood and hardwood-conifer forests (CDFW 1990f). Roosts in crevices in buildings, mines, rocks, rock faces, bridges, and in large decadent trees or snags (WBWG 2018). Elevation: sea level to 9,350 ft but most common between 4,000 and 7,000 ft (WBWG 2018).	Throughout much of western North American from southern British Columbia, Canada, south the Chiapas, Mexico from Santa Cruz Island in California, east to the Black Hills of South Dakota (WBWG 2018).	Widespread in California occurring in all but the Central Valley and Colorado and Mojave deserts. Abundance appears to be irregular (CDFW 1990f).	None. No suitable forest or woodland habitats occur within the analysis Area.	
<i>Perognathus longimembris bangsi</i> Palm Springs little pocket mouse	Known from various vegetation communities including creosote scrub, desert scrub, and grasslands, generally occurring on loosely packed or sandy soils with sparse to moderately dense cover (Bolster 1998).	Historically known from the San Geronimo Pass area east to southern Joshua Tree National Park and Shaver's Valley, south through the Coachella Valley to Ocotillo (Bolster 1998).	Currently found in the northern and western regions of Coachella Valley north of Interstate 10 (Nature Serve 2021).	None. The analysis Area occurs outside the known range of this species.	
PLANTS					
<i>Ambrosia umbellata</i> var. <i>aurita</i> chaparral sand-verbena	Annual herb that blooms March through September. Inhabits chaparral, coastal scrub, and desert dunes (CNPS 2021c). Elevation: 250 to 5,250 ft (CNPS 2021c).	Known from California, Arizona, and Baja California (CNPS 2021c).	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties (CNPS 2021c). One location in Anza-Borrego does not appear to be naturally occurring.	None. No suitable desert dunes of chaparral habitat occur within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Astragalus magdalenae</i> <i>var. peirsonii</i> Peirson's milk-vetch	Perennial herb that blooms December through April. Inhabits desert dunes (CNPS 2021m). Elevation: 200 to 750 ft (CNPS 2021m).	Occurs in California, Arizona, Baja California, and Sonora Mexico (CNPS 2021m).	Imperial County and presumed extirpated if once present in San Diego County (CNPS 2021m).	None. No suitable desert dune habitat occurs within the analysis Area.	
<i>Choenactis glabriuscula</i> <i>var. orcuttiana</i> Orcutt's pincushion	Annual herb that blooms January through August. Inhabits sandy substrates including coastal bluff scrub in coastal dunes (CNPS 2021k). Elevation: sea level to 325 ft (CNPS 2021k).	Occurs in California and Baja California (CNPS 2021k).	Found in Los Angeles, San Diego, Ventura counties and presume extirpated in Orange County (CNPS 2021k).	None. The analysis Area occurs outside of the range of this species and no suitable coastal dunes occur within the analysis Area.	
<i>Chorizanthe polygonoides</i> <i>var. longispina</i> Long-spined spineflower	Annual herb that blooms April through July. Inhabits clay substrates in chaparral, coastal scrub, meadows, seeps, valley, foothill grassland, and vernal pools (CNPS 2021f). Elevations: 100 to 5,000 ft (CNPS 2021f).	Occurs in California and Baja California (CNPS 2021f).	Found in Orange, Riverside, Santa Barbara, and San Diego counties (CNPS 2021f).	None. The analysis Area occurs outside of the range of this species and no suitable coastal dunes occur within the analysis Area.	
<i>Cylindropuntia fosbergii</i> Pink teddy-bear cholla	Perennial stem succulent that blooms March through May. Inhabits Sonoran desert scrub habitats (CNPS 2021n). Elevation: 280 to 2,790 ft (CNPS 2021n).	Endemic to California (CNPS 2021n).	Occurs in San Diego County (CNPS 2021n).	None. The Analysis Area occurs outside of the known range of this species.	
<i>Dieteria asteroides</i> <i>var. lagunensis</i> Mt. Laguna aster	Perennial herb that blooms July through August. Utilizes cismontane woodland and lower montane coniferous forest (CNPS 2021i). Elevation: 2,600 to 7,900 ft (CNPS 2021i).	Located in California and Baja California (CNPS 2021i).	Found in San Diego County (CNPS 2021i).	None. The Analysis Area is outside the known range of this species.	
<i>Fremontodendron mexicanum</i> Mexican flannelbush	Perennial evergreen shrub that blooms March through June. Inhabits gabbroic, metavolcanic, or serpentine substrates within closed-cone coniferous forest, chaparral, and cismontane woodlands (CNPS 2021g). Elevation: 30 to 2,350 ft (CNPS 2021g).	Known from California and Baja California (CNPS 2021g).	Found in San Diego County (CNPS 2021g).	None. Outside known range and no occurrence records.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Grindelia halii</i> San Diego gumplant	Perennial herb that blooms May through October. Utilizes chaparral, lower montane coniferous forest, meadow, seeps, valley and foothill grassland (CNPS 2021q). Elevation: 280 to 5,725 ft (CNPS 2021q).	Endemic to California (CNPS 2021q).	Found in San Diego County (CNPS 2021q).	None. Outside known range and no occurrence records.	
<i>Helianthus niveus</i> subsp. <i>tephrodes</i> Algodones Dunes sunflower	Perennial herb that blooms September to May. Lives on desert dunes (CNPS 2021a). Elevation: 165 to 330 ft (CNPS 2021a).	Found in California, Arizona, and Sonora Mexico (CNPS 2021a).	Occurs in Imperial and San Diego counties (CNPS 2021a).	None. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.	
<i>Hulsea californica</i> San Diego sunflower	Perennial herb that blooms April through June. Inhabits openings and burned areas in chaparral, lower montane coniferous forest, and upper montane coniferous forests (CNPS 2021r). Elevation: 3,000 to 9,565 ft (CNPS 2021r).	Endemic to California (CNPS 2021r).	Found in Riverside and San Diego counties (CNPS 2021r).	None. Outside known range and no occurrence records.	
<i>Lepidium flavum</i> var. <i>felipense</i> Borrego Valley peppergrass	Annual herb that blooms March through May. Inhabits sandy areas in pinyon and juniper woodland and Sonoran desert scrub (CNPS 2021b). Elevation: 1,495 to 2,755 ft (CNPS 2021b).	Occurs in California and Baja California (CNPS 2021b).	Found in San Diego County (CNPS 2021b).	None. Outside known range and no occurrence records.	
<i>Monardella nana</i> subsp. <i>leptosiphon</i> San Felipe monardella	Perennial rhizomatous herb that blooms June through July. Inhabits chaparral and lower montane coniferous forest (CNPS 2021s). Elevation: 3,940 to 6,085 ft (CNPS 2021s).	Occurs in California and Baja California (CNPS 2021s).	Found in Riverside and San Diego counties (CNPS 2021s). Note: Known mostly from Hot Springs Mountains. Most of the plants from the Palomar Mountains are mis-identified. May not warrant taxonomic recognition due to problems with type specimen and its distribution and a lot of intermediacy between current subtaxa, and evident integrations (CNPS 2021s).	None. No suitable chaparral, or forest habitats occur within the Analysis Area.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Palafoxia arida</i> var. <i>gigantea</i> Giant Spanish needle	Annual/perennial herb that blooms January through May. Inhabits desert dunes (CNPS 2021e). Elevation: 50 to 330 ft (CNPS 2021e).	Occurs in California and Sonora Mexico (CNPS 2021e).	Known only from Imperial County (CNPS 2021e).	None. No suitable dune habitats exist within the Analysis Area and no records of the species occur within the Analysis Area.	
<i>Streptanthus campestris</i> Southern jewel-flower	Perennial herb that blooms May through July. Inhabits rocky areas in chaparral, lower montane coniferous forest, and pinyon juniper woodland (CNPS 2021u). Elevation: 2,950 to 7,545 ft (CNPS 2021u).	Found in California and Baja California (CNPS 2021u).	Occurs in Imperial, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura counties (CNPS 2021u).	None. No suitable chaparral, woodlands or forest habitats occur within the Analysis Area.	
<i>Symphotrichum defoliatum</i> San Bernardino aster	Perennial rhizomatous herb that blooms July through November. Inhabits areas near ditches, streams and springs in cistomontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grasslands that are vernal mesic (CNPS 2021p). Elevation: 0.6 to 620 ft (CNPS 2021p).	Endemic to California (CNPS 2021p).	Found in Imperial, Kern, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and possibly in San Luis Obispo counties (CNPS 2021p).	None. No suitable aquatic habitat occurs within the analysis Area.	
<i>Thermopsis californica</i> var. <i>semota</i> Velvety false lupine	Perennial rhizomatous herb that blooms March through June. Inhabits cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grasslands (CNPS 2021v). Elevation: 305 to 570 ft (CNPS 2021v).	Endemic to California (CNPS 2021v).	Found in San Diego County (CNPS 2021v).	None. Outside known range and no occurrence records.	
<i>Thysanocarpus rigidus</i> rigid fringedpod	Annual herb that blooms February through May. Inhabits dry rocky slopes in pinyon and juniper woodland (CNPS 2021o). Elevation: 185 to 70 ft (CNPS 2021o).	Occurs in California and Baja California (CNPS 2021o).	Found in Los Angeles, Riverside, San Bernardino, and San Diego counties (CNPS 2021o).	None. Outside the known range and no occurrence records.	

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
REPTILES					
<i>Actinemys marmorata pallida</i> Southwestern pond turtle	Inhabit ponds, lakes, rivers, streams, creek, marshes, and irrigation ditches with abundant vegetation and either rocky or muddy bottoms in woodland, forests, grassland (CHS 2021f). Prefers shallower area in pools with logs, rocks, cattail mats, and exposed banks required for basking. May enter brackish water and seawater (CHS 2021f). Elevation: sea level to 6,696 ft but mostly below 4,890 ft (CHS 2021f).	Occurs in California and Baja California (CHS 2021f).	Found south, east, and west of the San Francisco Bay area with eastern boundary along the edge of the South Coast Ranges with an isolated, relict population along the Mojave River at Campy Cody and at Afton Canyon (CHS 2021f).	None. The analysis Area occurs outside the known range of this species.	
<i>Coleonyx switaki</i> Barefoot banded gecko	Inhabits rocky areas at the heads of canyons. Restricted to areas dominated by massive rock formations (CDFW 1990j). In flatlands, canyons, thornscrub and in where vegetation is sparse (CHS 2021e). Elevation: near sea level to over 2,000 ft (CHS 2021e).	Occurs in California and Baja California (CDFW 1990j).	Found on the east face of the Peninsular Ranges with unsubstantiated reports near Anza Borrego Desert in San Diego County (CDFW 1990j). Isolated population of subspecies <i>C.s. switaki</i> is known from Coyote Mountains of Imperial County (CHS 1990j).	None. The analysis Area occurs outside the known range of this species.	
<i>Phrynosoma mcallii</i> Flat-tailed horned lizard	Inhabits hard packed sandy flats and low dunes in Lower Colorado River desertscrub community, particularly in areas with creosote-white bursage vegetation (USFWS Brennan 2008, 2011). Restricted to areas of fine sand and sparse vegetation in desert washes and flats (CDFW 2000a). Most common in areas with high density of harvester ants and fine windblow sand but rarely occurs on dunes (CHS 2021b). Elevation: Below 820 ft (AGFD 2010b, CHS 2021b).	Occurs in Arizona and California, U.S. and the Mexican states of Baja California and Sonora (USFWS 2011).	Found in central Riverside, eastern San Diego and Imperial counties (CDFW 2000a). Throughout most of the Colorado desert from Coachella Valley south through the Imperial Valley and west into the Anza-Borrego desert, south to Baja California, southwestern Arizona, and northwestern Sonora (CHS 2021b).	None. No suitable hard packed sandy flats or low dunes occur within the Analysis Area. No records for this species occur within the Analysis Area.	<i>Phrynosoma mcallii</i> Flat-tailed horned lizard

Species Name	Known Suitable Habitat	Total Range	Distribution in California	Potential to Occur	Effects Determination
<i>Phrynosoma blainvilli</i> Coast horned lizard	Inhabits valley-foothill hardwood, conifer and riparian habitats, pine-cypress, juniper, and annual grassland habitats (CDFW 2000a). Occurs in open areas of sandy soil and low vegetation in valleys, foothills, semiarid mountains and along dirt roads or near ant hills (CHS 2021a). Elevation: Sea level to 6,000 ft (CDFW 2000a) or 8,000 ft (CHS 2021a).	Endemic to California (CHS 2021a).	Historically found along the Pacific coast from the Bay Area to Baja California border and west the Sierra Nevada Mountains (CHS 2021a).	None. The analysis Area occurs outside the known range of this species.	
<i>Thamnophis hammondi</i> Two-striped gartersnake	Inhabit vegetated areas associated with permanent or semi-permanent bodies of water (CDFW 2000). Associated vegetation includes oak woodland, willow, coastal sage scrub, scrub oak, sparse pine, chaparral, and brushland (CHS 2021g). Elevation: sea level to 8,000 ft (CDFW 2000).	Occurs in California and Baja California (CHS 2021g)	Found on the southeastern slope of the Diablo Range and the Salinas Valley south along the South Coast and Traverse ranges to the Mexican border and on Santa Catalina Island (CDFW 2000).	None. The analysis Area occurs outside the known range of this species.	

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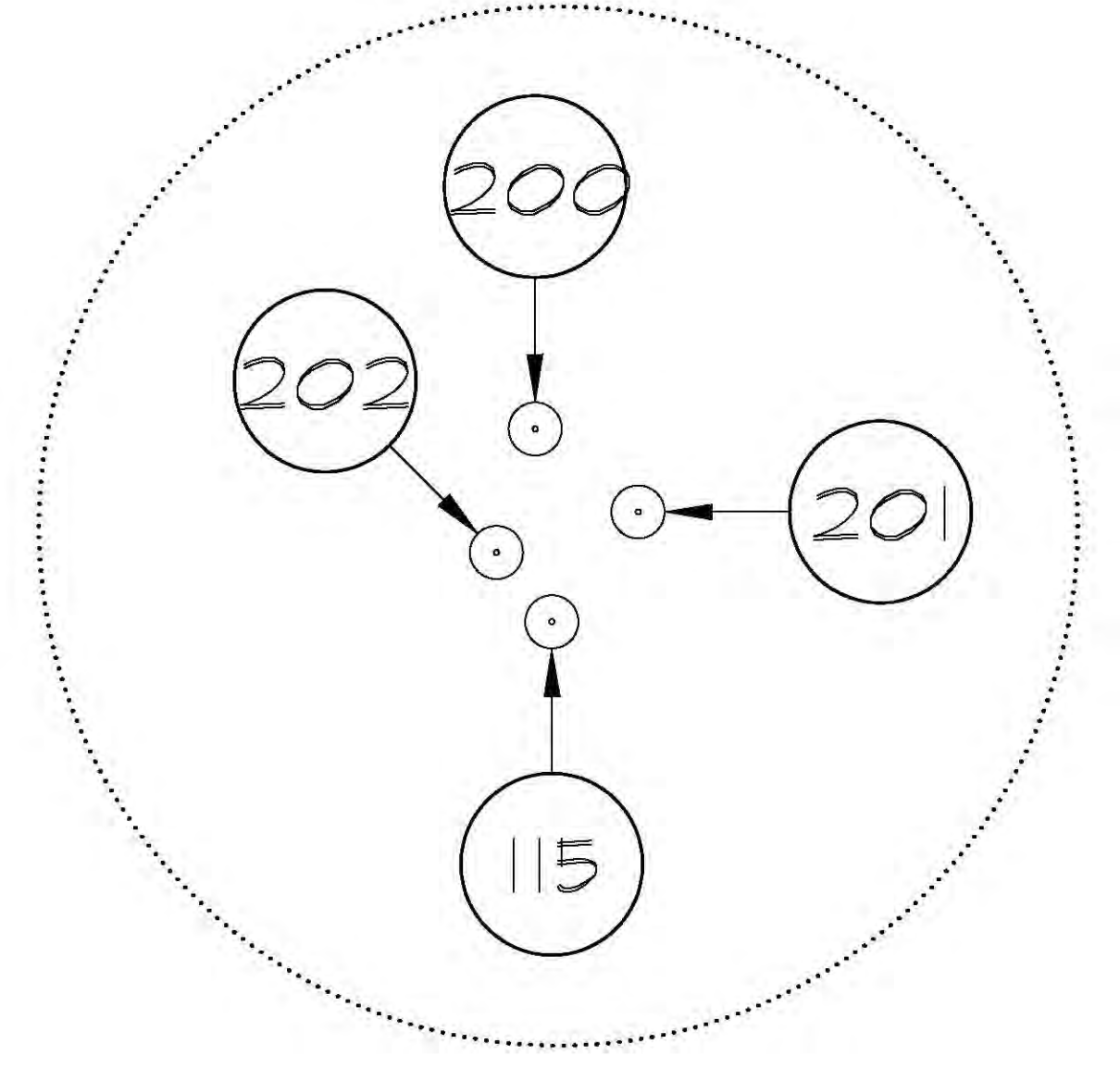
APPENDIX C

Surveyor Exhibit & Legal Descriptions – Oro Cruz Mining Claims
(Desert Surveying & Engineering, Inc., 2022) / (Imperial County, 1981 - 2010)

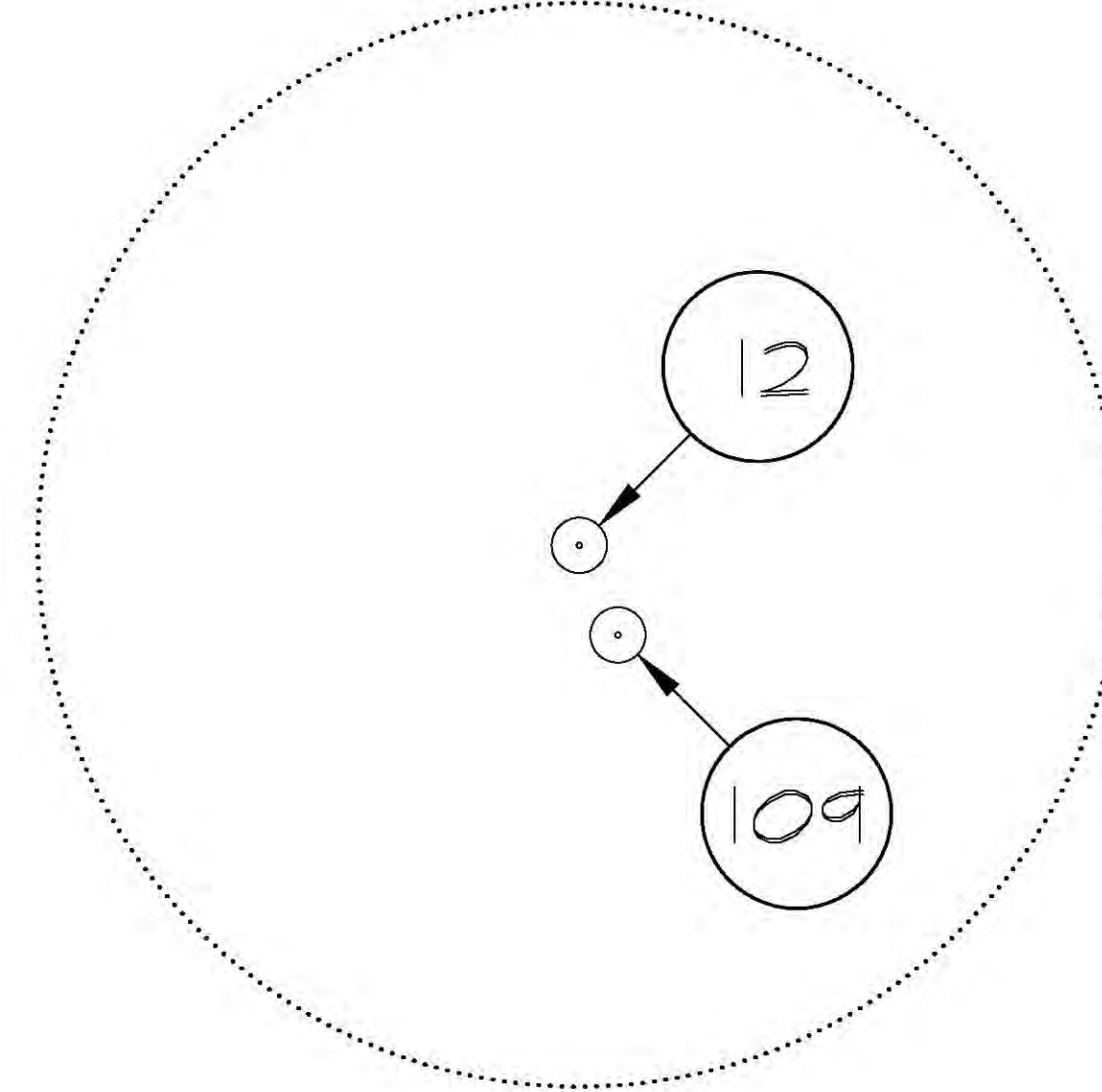
CONTROL SURVEY

IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA

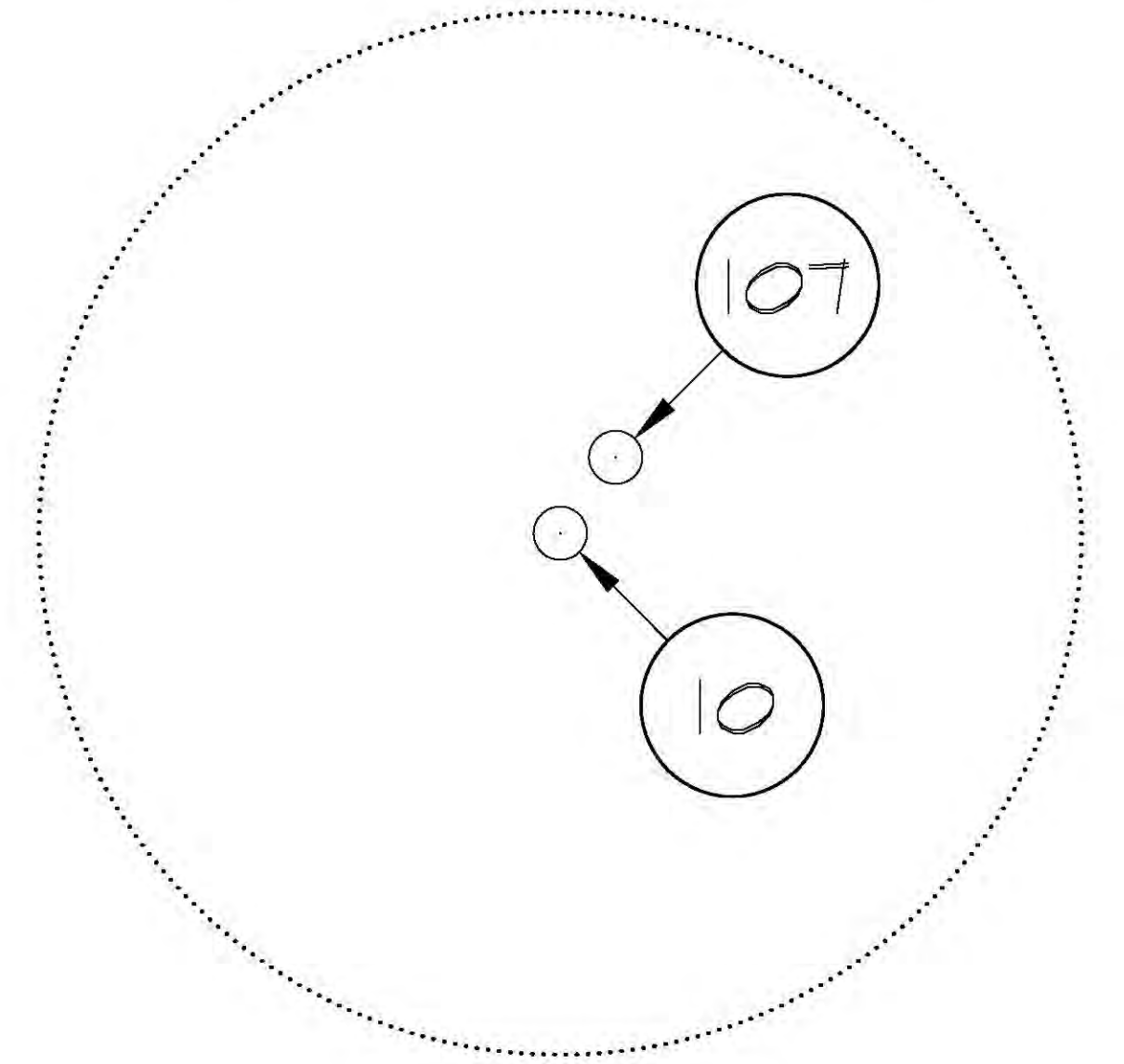
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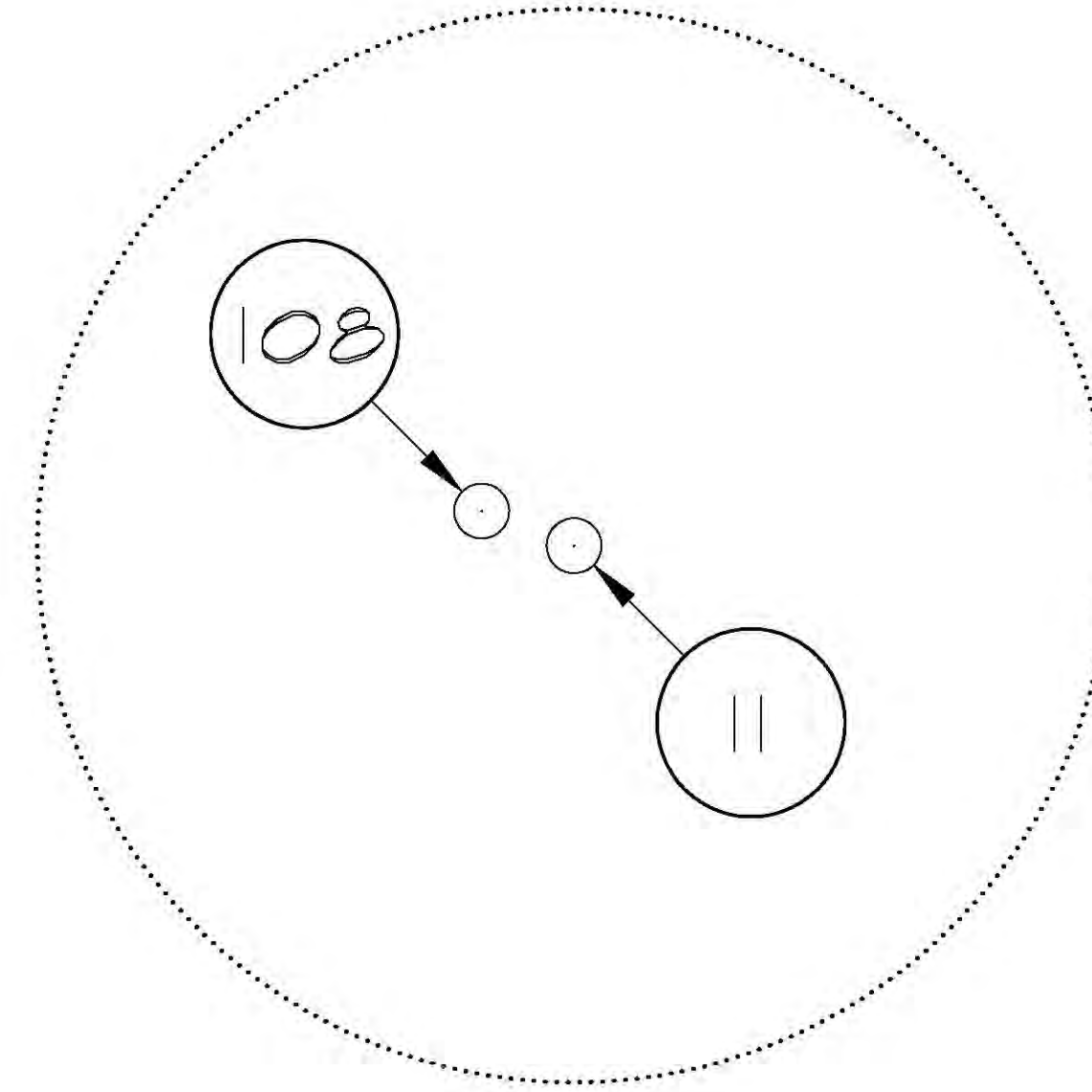
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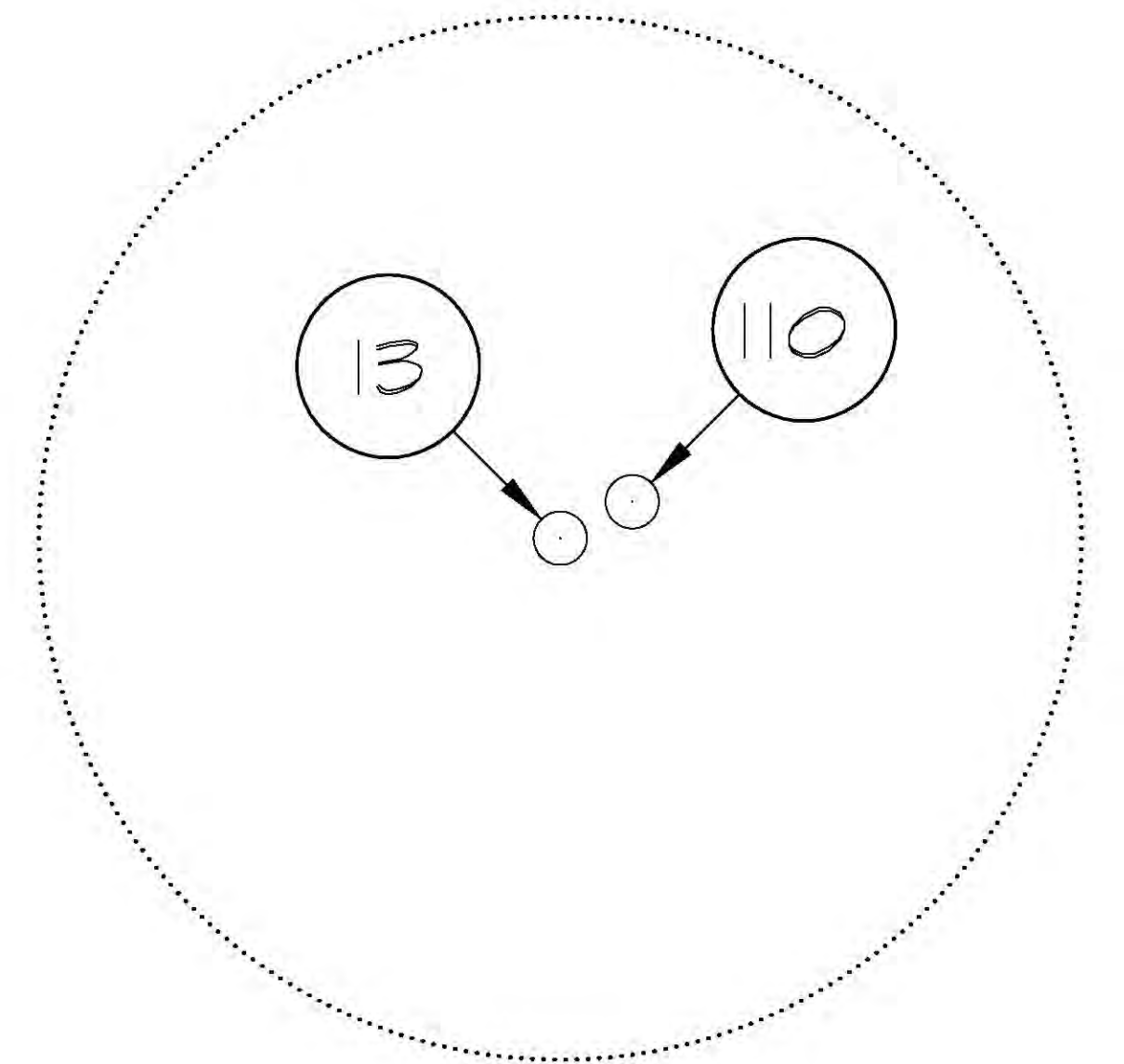
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DETAIL "C"
NOT TO SCALE

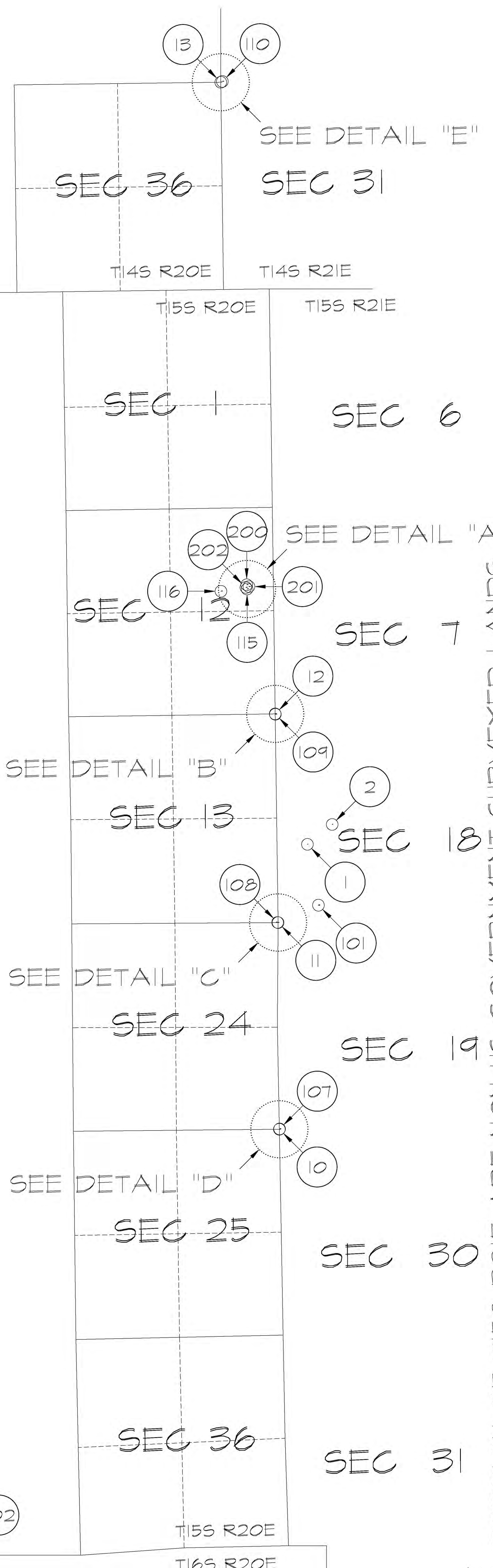
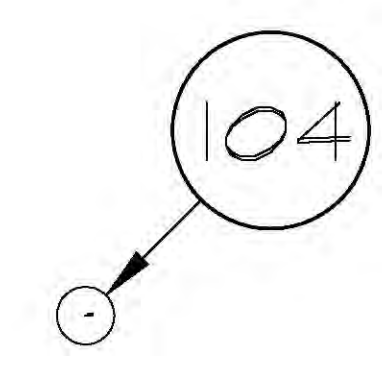


DETAIL "E"
NOT TO SCALE



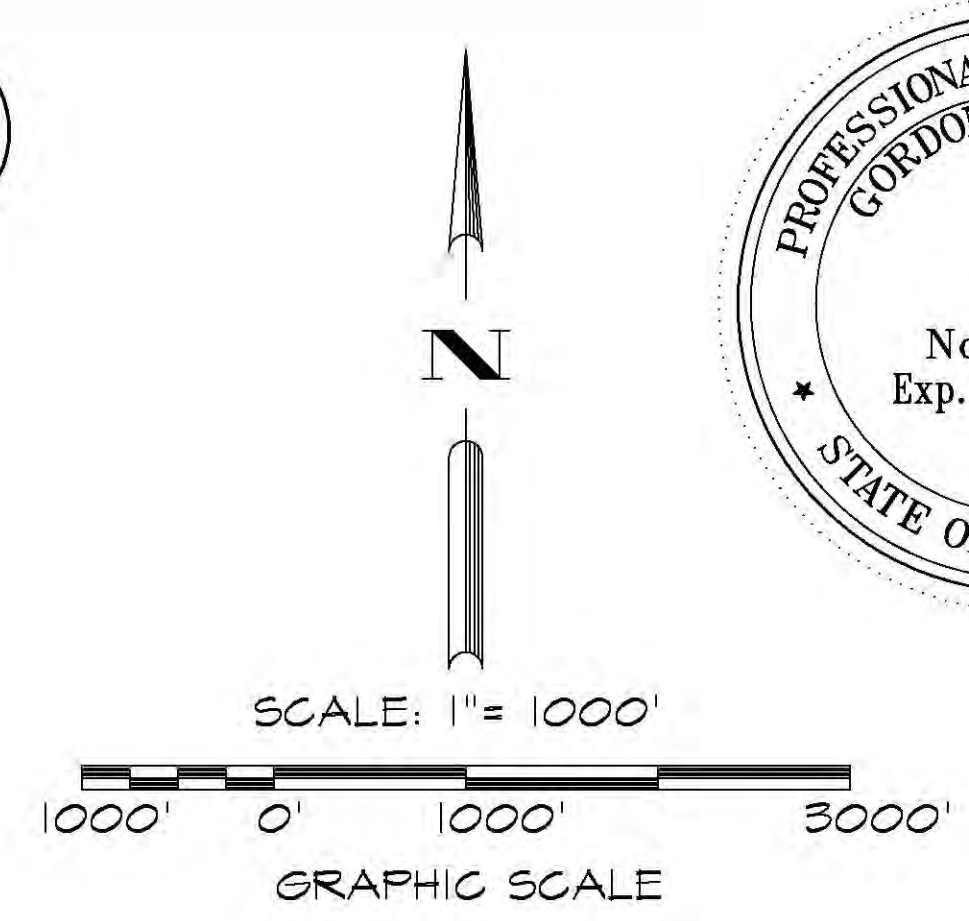
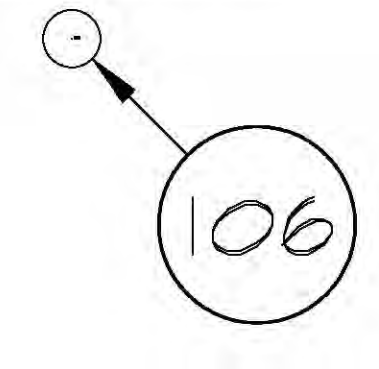
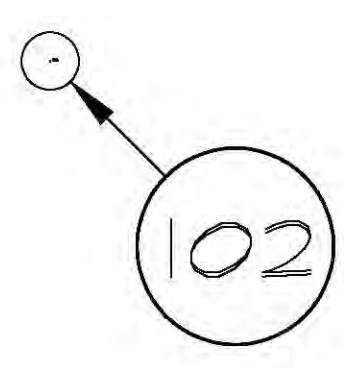
T155 R20E - US GOVERNMENT SURVEYED LANDS
(SECTIONS PER USGLO PLAT DATED 1-14-1935)

PORTION OF T155 R21E ARE NON-US GOVERNMENT SURVEYED LANDS
(PROTRACED SECTIONS PER BLM MASTER TITLE PLAT DATED 1-13-2010)



CONTROL & TARGET DATA:

NO.	NORTHING	EASTING	ELEV	DESCRIPTION
1	894646.60	7004752.86	568.81	R1226 (H&V CONTROL)
2	895155.0276	7005386.27	575.38	T1226
10	887368.68	7004035.37	471.93	GLO BC NE SEC 25
11	892650.78	7004002.89	543.55	GLO BC NE SEC 24
12	897980.99	7003928.53	619.09	GLO BC NE SEC 13
13	914121.46	7002536.89	865.21	GLO BC NE SEC 36
101	893093.58	7005035.06	552.28	TGT 1
102	878475.47	6995896.05	349.13	TGT 2
103	918313.07	6994152.44	665.42	TGT 3
104	916028.17	7016055.25	859.97	TGT 4
105	895182.43	7017077.39	773.28	TGT 5
106	881717.80	7013827.18	508.91	TGT 6
107	887377.20	7004041.58	471.62	TGT NE COR SEC 25
108	892655.50	7003990.30	543.07	TGT NE COR SEC 24
109	897971.32	7003932.70	618.01	TGT NE COR SEC 13
110	914141.95	7002577.22	859.47	TGT NE COR SEC 36
115	901173.14	7003209.22	770.09	1/2" REBAR- DDGEO CONT
116	901115.68	7002541.00	855.17	1/2" REBAR- DDGEO CONT
200	901281.69	7003199.86	770.18	Dundas TGT A
201	901235.03	7003257.76	771.21	Dundas TGT B
202	901212.23	7003178.10	769.73	Dundas TGT C



Gordon O. Olson 9-12-2022

GORDON O. OLSON, P.L.S. 7107 DATE 12/31/2022
LICENSE EXPIRATION DATE: 12/31/2022

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

REG	\$ 4
RIF	\$ 2
MC	\$ 1
MIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 917Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 6 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1542, and filed with the Bureau of Land Management under Serial No. CAMC 79794.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southeast Quarter of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 13, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 36° 12' 58" East a distance of 2,454.16 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 7 on the North
Hercules No. 35 on the West
Hercules No. 5 on the South

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 6

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-6 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-6 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-6 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-6 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-6 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-6 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By  Deputy

SEP 13 2022

88-06125

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 919**AMENDED NOTICE OF LOCATION**
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 7 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1495, and filed with the Bureau of Land Management under Serial No. CAMC 79795.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northeast and Southeast Quarters of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 28° 14' 14" East a distance of 3,064.72 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

- Hercules No. 8 on the North
- Hercules No. 34 on the West
- Hercules No. 6 on the South

TEXASGULF MINERALS AND METALS, INC., a Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 7

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-7 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-7 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-7 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-7 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-7 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-7 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By

[Signature]

SEP 13 2022

88-06126

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1601 PAGE 921

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 8 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1496, and filed with the Bureau of Land Management under Serial No. CAMC 79796.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northeast Quarter of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 34° 37' 26" East a distance of 2,551.96 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 9 on the North
Hercules No. 33 on the West
Hercules No. 7 on the South

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 8

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-8 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-8 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-8 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-8 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-8 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-8 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER


I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

88-06127

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF.
BOOK 1601 PAGE 923**AMENDED NOTICE OF LOCATION**
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 9 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1497, and filed with the Bureau of Land Management under Serial No. CAMC 79797. The most recent amendment of the location is recorded in Book 1535, Page 723, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northeast Quarter of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 44° 01' 44" East a distance of 2,086.26 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 10 on the North
Hercules No. 32 on the West
Hercules No. 8 on the South

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 9

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-9 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-9 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-9 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-9 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-9 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-9 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

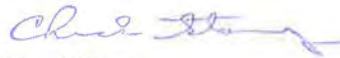
The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



SEP 13 2022

By



Deputy

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
MIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1601 PAGE 925

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 10 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1498, and filed with the Bureau of Land Management under Serial No. CAMC 79798. The most recent amendment of the location is recorded in Book 1535, Page 722, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1987.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northeast Quarter of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 58° 10' 21" East a distance of 1,706.60 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 11 on the North
Hercules No. 31 on the West
Hercules No. 9 on the South

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 10

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-10 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-10 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-10 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-10 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-10 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-10 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By *[Signature]*
Deputy

SEP 13 2022

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

AND WHEN RECORDED MAIL TO:

Von Porter
 Texasgulf Minerals and Metals, Inc.
 5932 McIntyre Street
 Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

DOLores PROVENCIO
COUNTY RECORDER

APR 14 4 07 PM '88

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1601 PAGE 927

AMENDED NOTICE OF LOCATION
 and Notice of Location
 (California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 11 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1499, and filed with the Bureau of Land Management under Serial No. CAMC 79799. The most recent amendment of the location is recorded in Book 1535, Page 721, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northeast Quarter of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 78° 18' 38" East a distance of 1,480.71 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
 Thence East a distance of 1500 feet to Corner No. 2;
 Thence South a distance of 300 feet to the East End Center;
 Thence South a distance of 300 feet to Corner No. 3;
 Thence West a distance of 1500 feet to Corner No. 4;
 Thence North a distance of 300 feet to the West End Center;
 Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

- Hercules No. 12 on the North
- Hercules No. 30 on the West
- Hercules No. 10 on the South

TEXASGULF MINERALS AND METALS, INC., a Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 11

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-11 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-11 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-11 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-11 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-11 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-11 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1987.

TEXASGULF MINERALS AND METALS, INC., a Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By 
Deputy

SEP 13 2022

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

DOLORES PROVENCIO
COUNTY RECORDER

APR 14 4 07 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 929AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 12 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1500, and filed with the Bureau of Land Management under Serial No. CAMC 79800. The most recent amendment of the location is recorded in Book 1535, Page 720, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southeast Quarter of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 78° 18' 38" East a distance of 1,480.71 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 13 on the North
Hercules No. 29 on the West
Hercules No. 11 on the South

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
(California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 12

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-12 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-12 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-12 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-12 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-12 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-12 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
Delaware corporation

By: William H. Strait
William H. Strait, Vice President
AUTHORIZED AGENT

FOR: Michael G. Tornabene
OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

DOLORES PROVENCIO
COUNTY RECORDER

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

APR 14 4 08 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 957

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 26 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1631, and filed with the Bureau of Land Management under Serial No. CAMC 79814.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest and Southeast Quarters of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 36° 25' 51" East a distance of 2,610.08 feet.

This lode mining claim is described by metes and bounds as follows:

- Beginning at Corner No. 1, the Southeast corner,
- Thence West a distance of 1500 feet to Corner No. 2;
- Thence North a distance of 300 feet to the West End Center;
- Thence North a distance of 300 feet to Corner No. 3;
- Thence East a distance of 1500 feet to Corner No. 4;
- Thence South a distance of 300 feet to the East End Center;
- Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 25 on the North
 Hercules No. 55 on the West
 Hercules No. 27 on the South
 Hercules No. 15 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 26

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-26 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-26 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-26 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-26 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-26 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-26 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1987.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

AND WHEN RECORDED MAIL TO:

Von Porter
 Texasgulf Minerals and Metals, Inc.
 5932 McIntyre Street
 Golden, Colorado 80403

DOLORES PROVENCIO
COUNTY RECORDER

APR 14 4 09 PM '88

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1601 PAGE 959

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

AMENDED NOTICE OF LOCATION
 and Notice of Location
 (California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 27 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1553, and filed with the Bureau of Land Management under Serial No. CAMC 79815.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest and Southeast Quarters of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 45° 56' 21" East a distance of 2,156.97 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Southeast corner,
 Thence West a distance of 1500 feet to Corner No. 2;
 Thence North a distance of 300 feet to the West End Center;
 Thence North a distance of 300 feet to Corner No. 3;
 Thence East a distance of 1500 feet to Corner No. 4;
 Thence South a distance of 300 feet to the East End Center;
 Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 26 on the North
 Hercules No. 54 on the West
 Hercules No. 28 on the South
 Hercules No. 14 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 27

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-27 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-27 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-27 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-27 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-27 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-27 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

DOLORES PROVENCIO
COUNTY RECORDER

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

APR 14 4 09 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1001 PAGE 961**AMENDED NOTICE OF LOCATION**
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 28 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1502, and filed with the Bureau of Land Management under Serial No. CAMC 79816.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest and Southeast Quarters of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 59° 51' 31" East a distance of 1,792.34 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Southeast corner,
Thence West a distance of 1500 feet to Corner No. 2;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 3;
Thence East a distance of 1500 feet to Corner No. 4;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 27 on the North
 Hercules No. 53 on the West
 Hercules No. 29 on the South
 Hercules No. 13 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 28

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-28 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-28 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-28 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-28 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-28 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-28 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
County

DOLORES PROVENCIO
COUNTY RECORDER

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

APR 14 4 09 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 963

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 29 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1503, and filed with the Bureau of Land Management under Serial No. CAMC 79817. The most recent amendment of the location is recorded in Book 1535, Page 725, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest and Southeast Quarters of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 79° 02' 45" East a distance of 1,578.77 feet.

This lode mining claim is described by metes and bounds as follows:

- Beginning at Corner No. 1, the Southeast corner,
- Thence West a distance of 1500 feet to Corner No. 2;
- Thence North a distance of 300 feet to the West End Center;
- Thence North a distance of 300 feet to Corner No. 3;
- Thence East a distance of 1500 feet to Corner No. 4;
- Thence South a distance of 300 feet to the East End Center;
- Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 28 on the North
 Hercules No. 52 on the West
 Hercules No. 30 on the South
 Hercules No. 12 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 29

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-29 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-29 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-29 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-29 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-29 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-29 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1987.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

DOLORES PROVENCIO
COUNTY RECORDER

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

APR 14 4 09 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 965

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 30 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1504, and filed with the Bureau of Land Management under Serial No. CAMC 79818. The most recent amendment of the location is recorded in Book 1535, Page 726, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northwest and Northeast Quarters of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 79° 02' 45" East a distance of 1,578.77 feet.

This lode mining claim is described by metes and bounds as follows:

- Beginning at Corner No. 1, the Southeast corner,
- Thence West a distance of 1500 feet to Corner No. 2;
- Thence North a distance of 300 feet to the West End Center;
- Thence North a distance of 300 feet to Corner No. 3;
- Thence East a distance of 1500 feet to Corner No. 4;
- Thence South a distance of 300 feet to the East End Center;
- Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 29 on the North
 Hercules No. 51 on the West
 Hercules No. 31 on the South
 Hercules No. 11 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 30

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-30 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-30 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-30 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-30 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-30 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-30 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1989.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

AND WHEN RECORDED MAIL TO:

Von Porter
 Texasgulf Minerals and Metals, Inc.
 5932 McIntyre Street
 Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

DOLORES PROVENCIO
COUNTY RECORDER

APR 14 4 09 PM '88

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1601 PAGE 967

AMENDED NOTICE OF LOCATION
 and Notice of Location
 (California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, and Brigham Young University, the current mailing address of which is 387A ASB Administration Building, Provo, Utah 84602, the locators and/or owners (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 31 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1506, and filed with the Bureau of Land Management under Serial No. CAMC 79819. The most recent amendment of the location is recorded in Book 1535, Page 724, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northwest and Northeast Quarters of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 59° 51' 31" East a distance of 1,792.34 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Southeast corner,
 Thence West a distance of 1500 feet to Corner No. 2;
 Thence North a distance of 300 feet to the West End Center;
 Thence North a distance of 300 feet to Corner No. 3;
 Thence East a distance of 1500 feet to Corner No. 4;
 Thence South a distance of 300 feet to the East End Center;
 Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 30 on the North
 Hercules No. 50 on the West
 Hercules No. 32 on the South
 Hercules No. 10 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 Brigham Young University
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 31

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-31 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-31 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-31 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-31 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-31 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-31 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1983.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 Brigham Young University
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]* Deputy

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 09 PM '88

AND WHEN RECORDED MAIL TO:

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1001 PAGE 969Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403**AMENDED NOTICE OF LOCATION**
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, and Brigham Young University, the current mailing address of which is 387A ASB Administration Building, Provo, Utah 84602, the locators and/or owners (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 32 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1508, and filed with the Bureau of Land Management under Serial No. CAMC 79820. The most recent amendment of the location is recorded in Book 1535, Page 719, of the Imperial County, California, records.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northwest and Northeast Quarters of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 45° 56' 21" East a distance of 2,156.97 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Southeast corner,
Thence West a distance of 1500 feet to Corner No. 2;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 3;
Thence East a distance of 1500 feet to Corner No. 4;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 31 on the North
 Hercules No. 49 on the West
 Hercules No. 33 on the South
 Hercules No. 9 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 Brigham Young University
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 32

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-32 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-32 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-32 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-32 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-32 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-32 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 Brigham Young University
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022 By *[Signature]*
Deputy

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

DOLORES PROVENCIO
COUNTY RECORDER

APR 14 4 09 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF
BOOK 1601 PAGE 971**AMENDED NOTICE OF LOCATION**
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 33 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1509, and filed with the Bureau of Land Management under Serial No. CAMC 79821.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 24 day of January, 1987.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 50 feet in an easterly direction and 1450 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Northwest and Northeast Quarters of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears North 36° 25' 51" East a distance of 2,610.08 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Southeast corner,
Thence West a distance of 1500 feet to Corner No. 2;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 3;
Thence East a distance of 1500 feet to Corner No. 4;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 32 on the North
 Hercules No. 48 on the West
 Hercules No. 34 on the South
 Hercules No. 8 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 33

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-33 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-33 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-33 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-33 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-33 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-33 West End Center"

This claim is located in Section 12, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 24 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 10 PM '88

AND WHEN RECORDED MAIL TO:

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1001 PAGE 1011

AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 53 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1520, and filed with the Bureau of Land Management under Serial No. CAMC 79841.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 25 day of January, 1987.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest Quarter of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 11, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 42° 04' 23" West a distance of 1,224.86 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 54 on the North
 Hercules No. 68 on the West
 Hercules No. 52 on the South
 Hercules No. 28 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 53

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-53 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-53 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-53 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-53 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-53 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-53 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 25 day of January, 1988.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



By  Deputy

SEP 13 2022

RECORDING REQUESTED BY:

DOLORES PROVENCIO
COUNTY RECORDER

Texasgulf Minerals and Metals, Inc.

APR 14 4 10 PM '88

AND WHEN RECORDED MAIL TO:

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1001 PAGE 1013

Von Porter
Texasgulf Minerals and Metals, Inc.
5932 McIntyre Street
Golden, Colorado 80403AMENDED NOTICE OF LOCATION
and Notice of Location
(California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 54 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1521, and filed with the Bureau of Land Management under Serial No. CAMC 79842.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 25 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest Quarter of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 11, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 28° 32' 19" West a distance of 1,717.94 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
Thence East a distance of 1500 feet to Corner No. 2;
Thence South a distance of 300 feet to the East End Center;
Thence South a distance of 300 feet to Corner No. 3;
Thence West a distance of 1500 feet to Corner No. 4;
Thence North a distance of 300 feet to the West End Center;
Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 55 on the North
 Hercules No. 67 on the West
 Hercules No. 53 on the South
 Hercules No. 27 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 54

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-54 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-54 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-54 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-54 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-54 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-54 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 25 day of January, 1987.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By

[Signature]
Deputy

RECORDING REQUESTED BY:

Texasgulf Minerals and Metals, Inc.

AND WHEN RECORDED MAIL TO:

Von Porter
 Texasgulf Minerals and Metals, Inc.
 5932 McIntyre Street
 Golden, Colorado 80403

REG	\$ 4
RIF	\$ 2
MC	\$ 1
NIL	\$ -
TOTAL	\$ 7

DOLORES PROVENCIO
COUNTY RECORDER

APR 14 4 10 PM '88

OFFICIAL RECORDS
IMPERIAL COUNTY, CALIF

BOOK 1001 PAGE 1015

AMENDED NOTICE OF LOCATION
 and Notice of Location
 (California - Lode)

Texasgulf Minerals and Metals, Inc., a Delaware corporation authorized to do business in the State of California, the current office and mailing address of which is 5932 McIntyre Street, Golden, Colorado 80403, being the lessee from and agent for Michael G. Tornabene, whose current residence and/or mailing address is 285 Oak Neck Lane, West Islip, New York 11795, the locator and/or owner (hereinafter "owner" whether one or more) of the mining claim hereinafter described, by right of discovery and location and desiring to amend the claim under and pursuant to the laws thereto applicable, has amended the Hercules No. 55 lode mining claim which was located the 23rd day of January, 1981, and recorded in the Imperial County, California, records at Book 1463, Page 1536, and filed with the Bureau of Land Management under Serial No. CAMC 79843.

This Amended Notice of Location and Notice of Location (hereinafter "Notice") is made to correct any defects, errors, and omissions in the location and/or the record thereof. Neither this Notice nor the record thereof shall preclude owner from proving any such title as owner held under previous locations. If, and to the extent, the original location is invalid, this Amended Notice of Location and Notice of Location shall be deemed to be the original Notice of Location. This Notice was posted on the ground located on the date of this Notice.

The date of this notice is the 25 day of January, 1988.

The number of linear feet claimed in length along the course of the vein, each way from the point of discovery is 1450 feet in an easterly direction and 50 feet in a westerly direction, together with 300 feet on each side of the center of the claim. The general course of the lode or vein is east/west.

This lode mining claim is located in the Southwest Quarter of Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

From the discovery monument, the Northeast corner of Section 11, T. 15 S., R. 20 E., San Bernardino Base and Meridian, bears South 21° 15' 44" West a distance of 2,263.26 feet.

This lode mining claim is described by metes and bounds as follows:

Beginning at Corner No. 1, the Northwest corner,
 Thence East a distance of 1500 feet to Corner No. 2;
 Thence South a distance of 300 feet to the East End Center;
 Thence South a distance of 300 feet to Corner No. 3;
 Thence West a distance of 1500 feet to Corner No. 4;
 Thence North a distance of 300 feet to the West End Center;
 Thence North a distance of 300 feet to Corner No. 1;

the place of beginning.

This lode mining claim is contiguous to and is bounded by the following claims:

Hercules No. 56 on the North
 Hercules No. 66 on the West
 Hercules No. 54 on the South
 Hercules No. 26 on the East

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

STATEMENT OF THE MARKING OF THE BOUNDARIES
 (California - Lode Mining Claim)

Name of Lode Mining Claim: Hercules No. 55

The boundaries of this claim have been marked by monuments marked as follows:

Corner No. 1 is a 4"x4" wooden post, 4' long with metal tag marked "H-55 Corner 1"

Corner No. 2 is a 4"x4" wooden post, 4' long with metal tag marked "H-55 Corner 2"

The East End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-55 East End Center"

Corner No. 3 is a 4"x4" wooden post, 4' long with metal tag marked "H-55 Corner 3"

Corner No. 4 is a 4"x4" wooden post, 4' long with metal tag marked "H-55 Corner 4"

The West End Center is a 4"x4" wooden post, 4' long with metal tag marked "H-55 West End Center"

This claim is located in Section 1, T. 15 S., R. 20 E., San Bernardino Base and Meridian, Imperial County, California.

The date of marking was the 25 day of January, 1989.

TEXASGULF MINERALS AND METALS, INC., a
 Delaware corporation

By: William H. Strait
 William H. Strait, Vice President
 AUTHORIZED AGENT

FOR: Michael G. Tornabene
 OWNER

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By *[Signature]*
Deputy

SEP 13 2022

98 26757

NOV 17 11 53 AM '98
 OFFICIAL RECORDS
 IMPERIAL COUNTY CLERK
 BOOK 1954 PAGE 59

TLS	9
RG	3
RF	1
MC	1
IX	1
TF	
NL	
PY	3
PR	

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL TO

NAME
 STREET ADDRESS
 CITY & STATE
 MICHAEL G. TORNABENE
 1523 SW Troon Circle
 Palm City, Florida
 34990

(SPACE ABOVE THIS LINE FOR RECORDER'S USE)

LODE MINING CLAIM - LOCATION NOTICE

TO WHOM IT MAY CONCERN: Please take notice that:

- The name of this claim is HERCULES 132, a lode mining claim.
- This claim is situated in Section 7, Township 15S, Range 21E, SW BERNARDINO Meridian, in the Cerro Mucnacho Mining District (if known), County of IMPERIAL State of California.
- The date of this location is the 23rd day of OCTOBER, 1998 on which date the notice of location was posted on the claim.
- The locator Michael G. Tornabene of this claim is. Name(s) Current Mailing or Residence Address

MICHAEL G. TORNABENE 1523 SW Troon Circle
 Palm City, Florida
 34990

- Each locator is a citizen of the United States, or has declared intention to become such.
- The locator(s) hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending (not to exceed 1500) 300 feet in width on each side of the middle of the vein or lode and more particularly described as follows:

Commencing at the monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location, I hereby claim 1490 feet extending in a NORTH direction along the course of the vein from the discovery monument and 10 feet in a SOUTH direction from the discovery monument, along the course of the vein. The general course of the vein is in a NORTH ealy and SOUTH ealy direction.

- The discovery monument is situated about 1570 FEET NORTH AND 300 FEET EAST (Distance from natural object or permanent monument and give direction as accurately as possible, to identify the claim located.) OF THE SECORNER OF SECTION 12 AND THE N.W. COR. OF SECTION 15 S, R20 E S.B.M.

- All dips, variations, spurs, angles and all veins, ledges, or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State, or of the United States are hereby claimed.
 *including but not limited to mineral and surface ground LOCATORS

STATEMENT OF THE MARKINGS OF THE BOUNDARIES AND OF PERFORMANCE OF LOCATION WORK

NOTICE IS HEREBY GIVEN by the undersigned locator that in accordance with the provisions of the Mining Law:

- The boundaries of the claim have been defined so that they can be readily traced on the ground. There has been erected at the discovery point, at each corner and at the center of each end line of the claim A WOOD POST, 1 1/2" BY 1 3/4" IN SIZE (Here describe the monuments, giving type and size.)
3 FEET ABOVE GROUND AND 1 FOOT IN GROUND

Each corner monument bears or contains markings to designate the corner and name of the claim.

- The claim is situated in Section 7, Township 15S, Range 21E, SW BERNARDINO Meridian.

DATED OCTOBER 23, 1998

LOCATOR: Michael G. Tornabene

SEE REVERSE SIDE

1 of 1

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By 
Deputy

98 26758
 D. DOLores PROVENCIO
 COUNTY RECORDER
 Nov 17 11 53 AM '98
 OFFICIAL RECORDS
 COUNTY CLERK'S OFFICE, CALIF.
 BOOK 1954 PAGE 60

PLS 9
 RG 3
 RF 1
 MC 1
 IX 1
 TF 1
 NL
 PY 3
 PR

RECORDING REQUESTED BY
 AND WHEN RECORDED MAIL TO
 NAME: MICHAEL G. TORNABENE
 STREET ADDRESS: 1523 SW Troon Circle
 CITY & STATE: Palm City, Florida 34990

(SPACE ABOVE THIS LINE FOR RECORDER'S USE)

LODE MINING CLAIM - LOCATION NOTICE

TO WHOM IT MAY CONCERN: Please take notice that:

- The name of this claim is HERCULES 133, a lode mining claim.
- This claim is situated in Section 7 & 6, Township 15S, Range 21E, SAN BERNARDINO Meridian, in the Orisco Murofacho Mining District (if known), County of _____ State of California.
- The date of this location is the 23rd day of OCTOBER, 1998 on which date the notice of location was posted on the claim.
- The locator of this claim is. Name(s) Current Mailing or Residence Address

MICHAEL G. TORNABENE 1523 SW Troon Circle
 Palm City, Florida 34990

- Each locator is a citizen of the United States, or has declared intention to become such.
- The locator do(es) hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending (not to exceed 1500) 300 feet in width on each side of the middle of the vein or lode and more particularly described as follows:
 Commencing at the monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location, I hereby claim 10 feet extending in a NORTH direction along the course of the vein from the discovery monument and 4490 feet in a SOUTH direction from the discovery monument, along the course of the vein. The general course of the vein is in a NORTH eery and SOUTH eery direction.
- The discovery monument is situated about 4490 FEET NORTH AND 300 FEET EAST
(Distance from natural object or permanent monument and give direction as accurately as possible, to identify the claim located.)
OF THE SE CORNER OF SECTION 12 AND THE NE CORNER OF SECTION 13, T15S R21E S.B.M.
- All dips, variations, spurs, angles and all veins, ledges, or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or, of the United States are hereby claimed.
*including but not limited to mineral and surface ground LOCATORS

STATEMENT OF THE MARKINGS OF THE BOUNDARIES AND OF PERFORMANCE OF LOCATION WORK

NOTICE IS HEREBY GIVEN by the undersigned locator that in accordance with the provisions of the Mining Law:

- The boundaries of the claim have been defined so that they can be readily traced on the ground. There has been erected at the discovery point, at each corner and at the center of each end line of the claim A WOOD POST 1 1/2" BY 1 3/4" IN SIZE
(Here describe the monuments, giving type and size.)

3 FEET ABOVE GROUND AND 1 FOOT IN GROUND

Each corner monument bears or contains markings to designate the corner and name of the claim.

- The claim is situated in Section 7, Township 15S, Range 21E, SAN BERNARDINO Meridian.
SW QUARTER SECTION 6

DATED OCTOBER 23, 1998

LOCATOR: Michael Tornabene

SEE REVERSE SIDE

NOTICE OF LOCATION—LODE
 WOLCOTT FORM NO. 1134—REV. 3-78

1 of 1

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

Certified Copy of document number 2010003173

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003173

Titles: 1 Pages: 2



Fees	10.00
Taxes	0.00
Other	1.50
PAYD	\$11.50

Space above for Recorder's Use

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001614
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 1 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears NORTH and 4845 feet and bears East and 2165 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

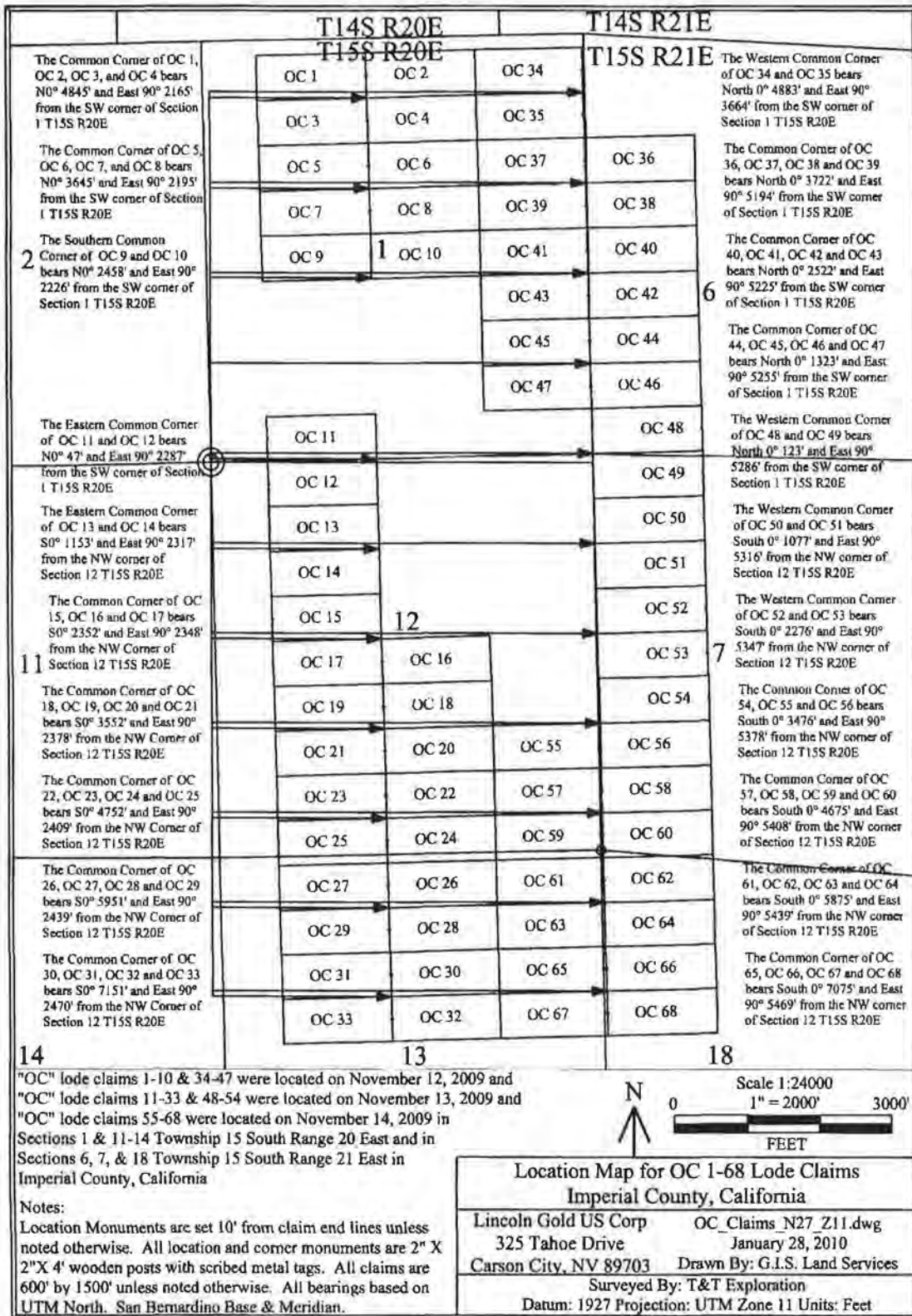
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Torking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By *V* Deputy

SEP 13 2022

Certified Copy of document number 2010003174

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003174

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for Recorder's Use

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001615
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 2 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
NE	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SW corner of this claim bears NORTH and 4845 feet and bears East and 2165 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

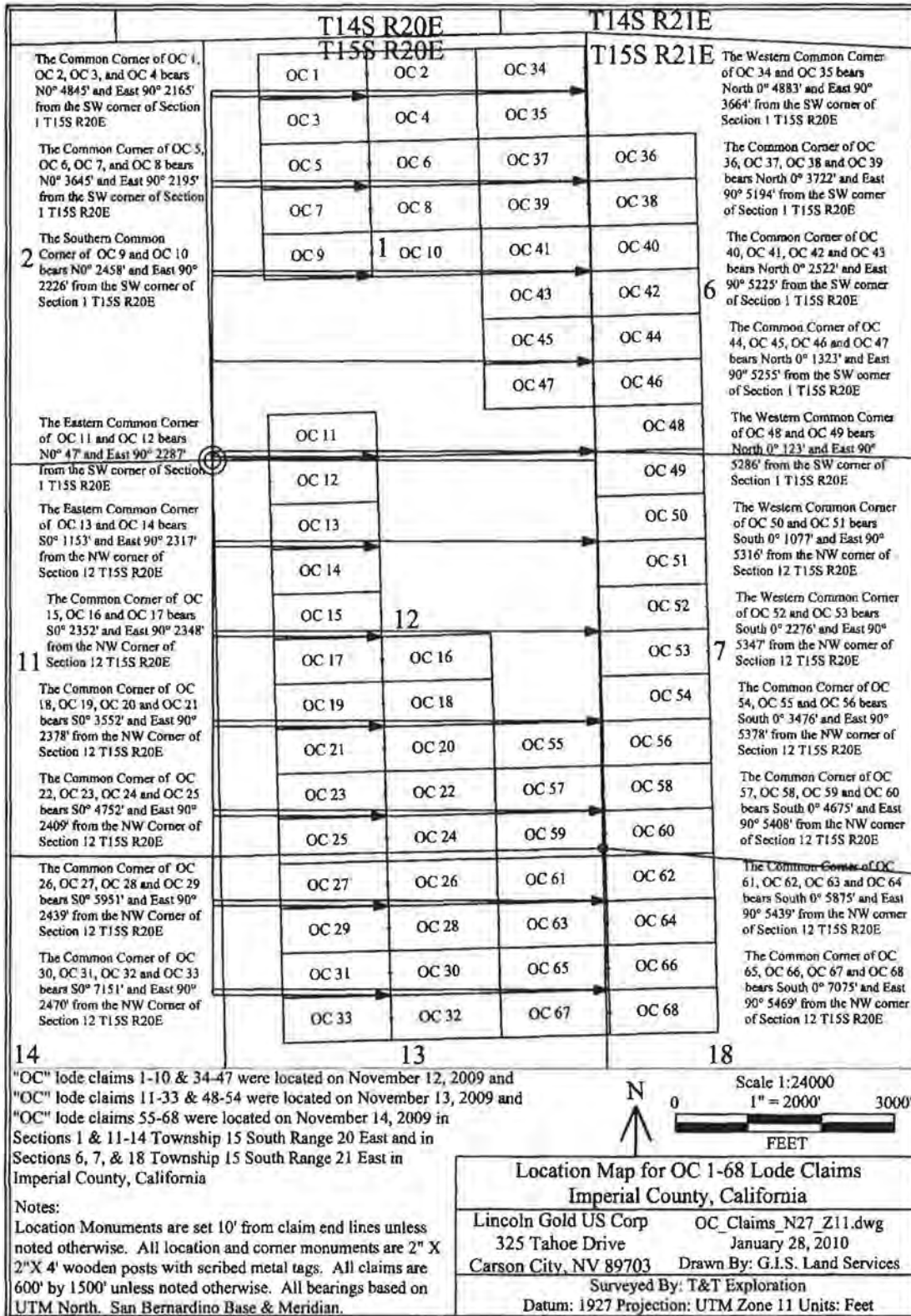
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent




I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



SEP 13 2022 Issued By  County

Certified Copy of Document number 2010003175

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003175

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for recording fee

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001616
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 3 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>NW</u>	<u>1</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NE corner of this claim bears NORTH and 4845 feet and bears East and 2165 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.


Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

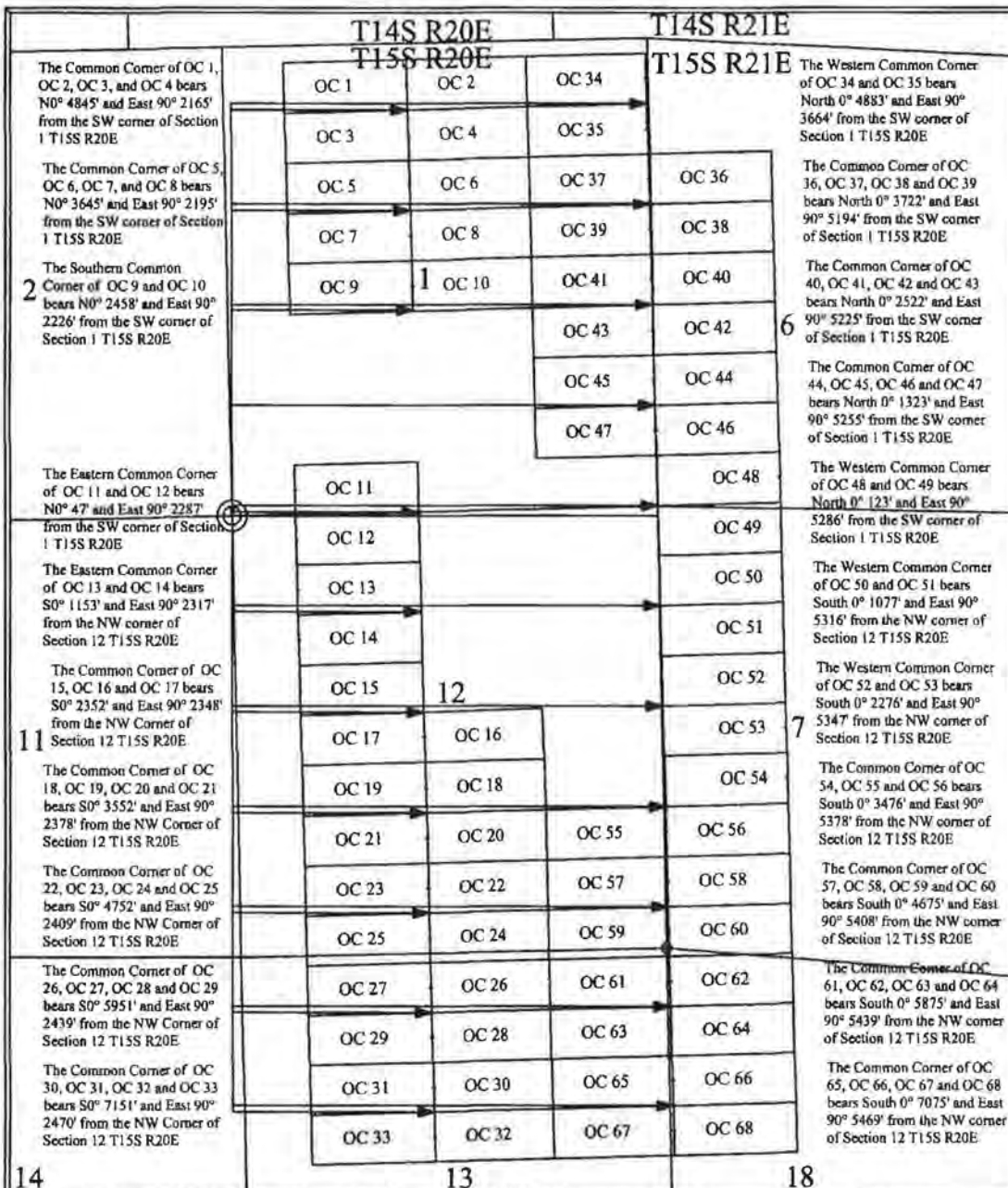
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

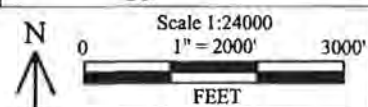
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4' wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North. San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.L.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



SEP 13 2022

By  Deputy

Certified Copy of document number 2010003176

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003176

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001617
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 4 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
NE	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears NORTH and 4845 feet and bears East and 2165 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date issued:
SEP 13 2022

By *[Signature]*
Deputy

Certified Copy of document number 2010003177

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003177

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001618
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 5 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears NORTH and 3645 feet and bears East and 2195 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

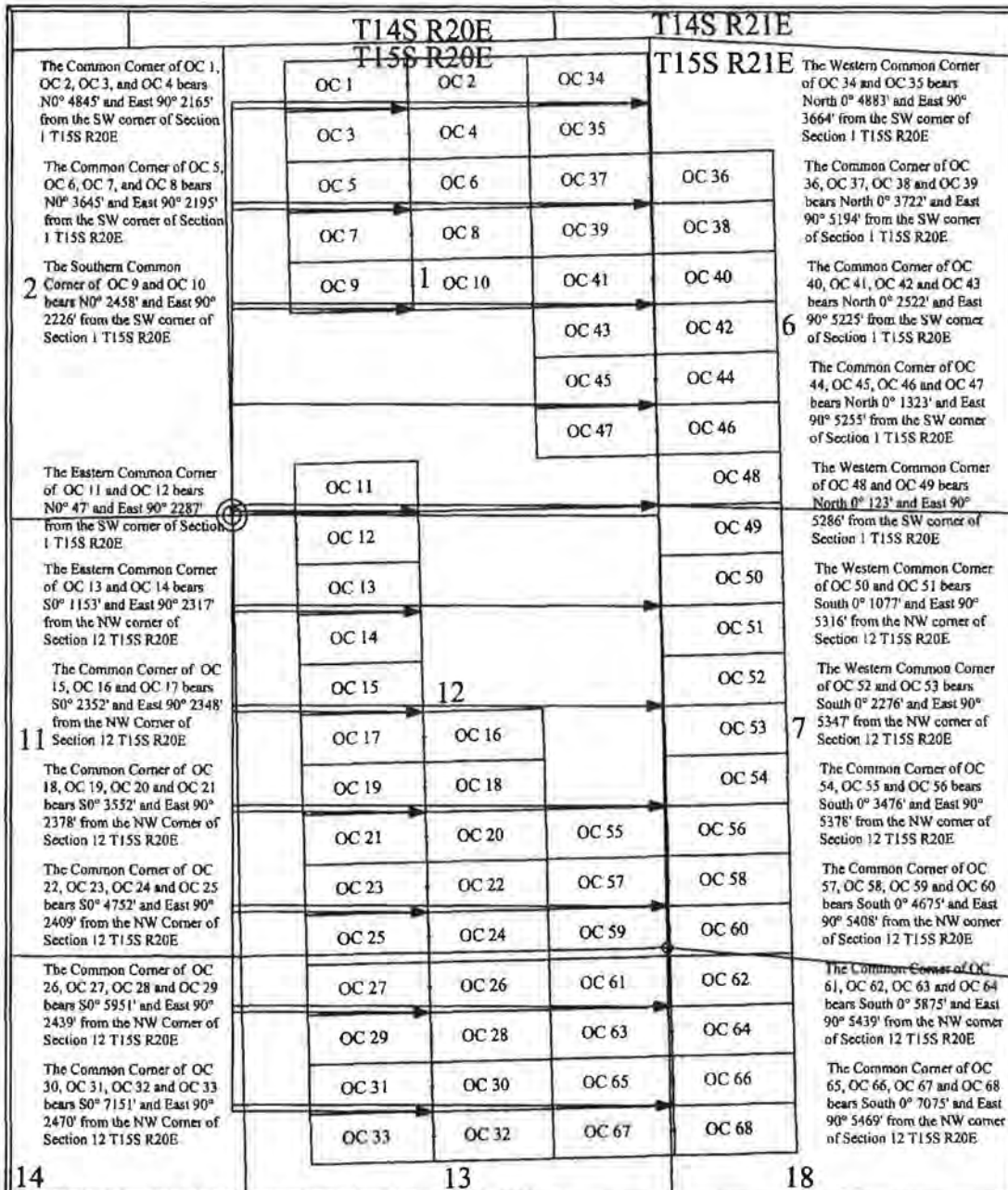
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

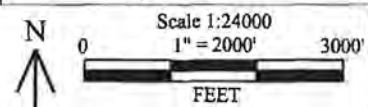
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



14 13 18

"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California



Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North. San Bernardino Base & Meridian.

Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



SEP 13 2022

By  Deputy

Certified Copy of document number 2010003178

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003178

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001619
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 6 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
NE	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SW corner of this claim bears NORTH and 3645 feet and bears East and 2195 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

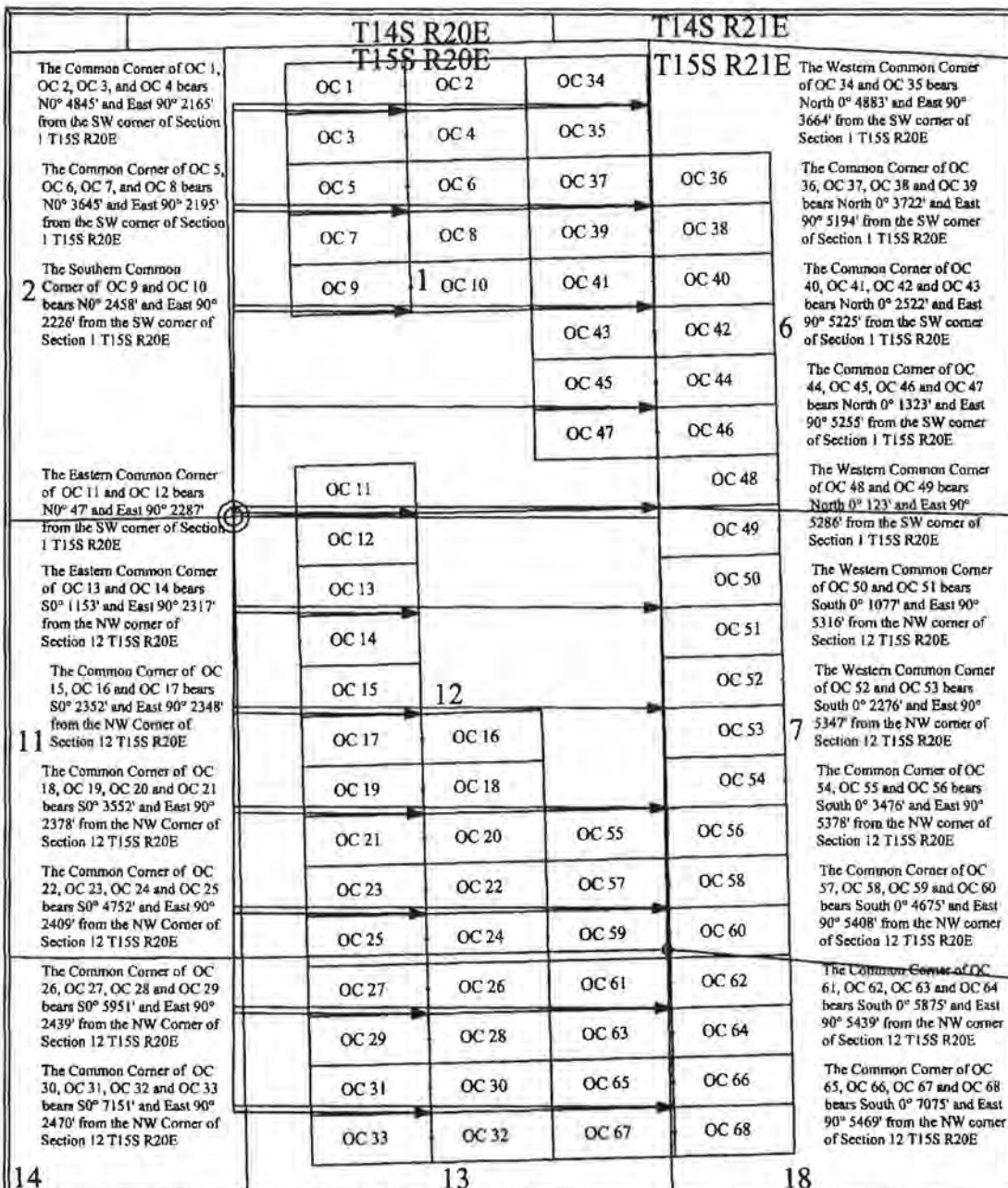
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

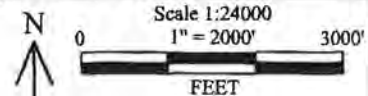
By:


H. H. Tonking, Agent



14
 "OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4' wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North. San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California


Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storcy
County Clerk - Recorder
County of Imperial, State of California



Date: SEP 13 2022 By  Deputy

Certified Copy of document number 2010003179

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003179



Titles: 1 Pages: 2

Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for recording fee

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001620
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 7 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

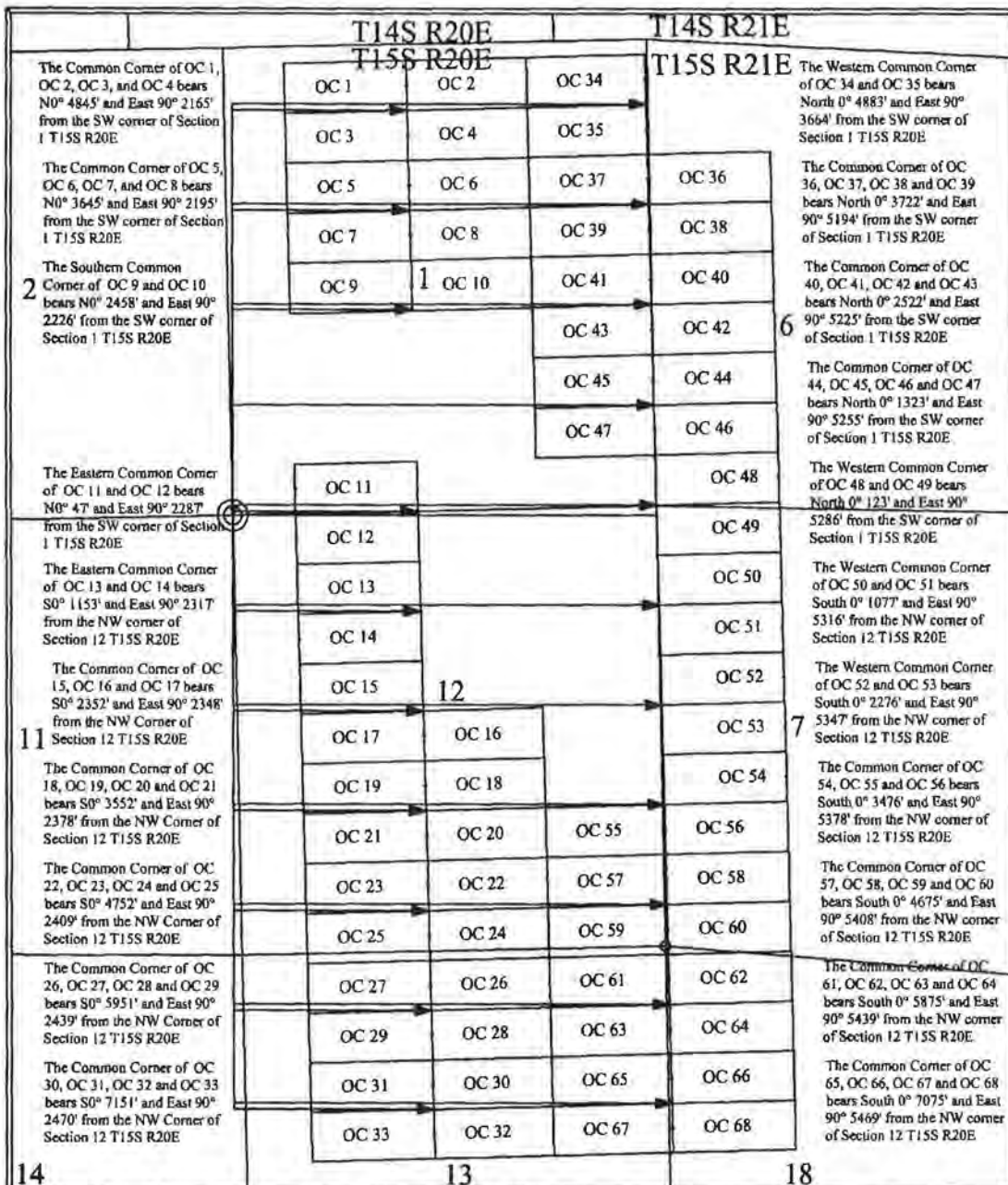
The NE corner of this claim bears NORTH and 3645 feet and bears East and 2195 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.
1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

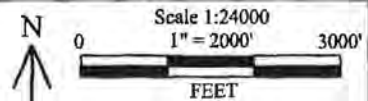
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California


Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



SEP 13 2022 By  Deputy

Certified Copy of document number 2010003180

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003180



Titles: 1 Pages: 2

Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001621
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 8 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
NE	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears NORTH and 3645 feet and bears East and 2195 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

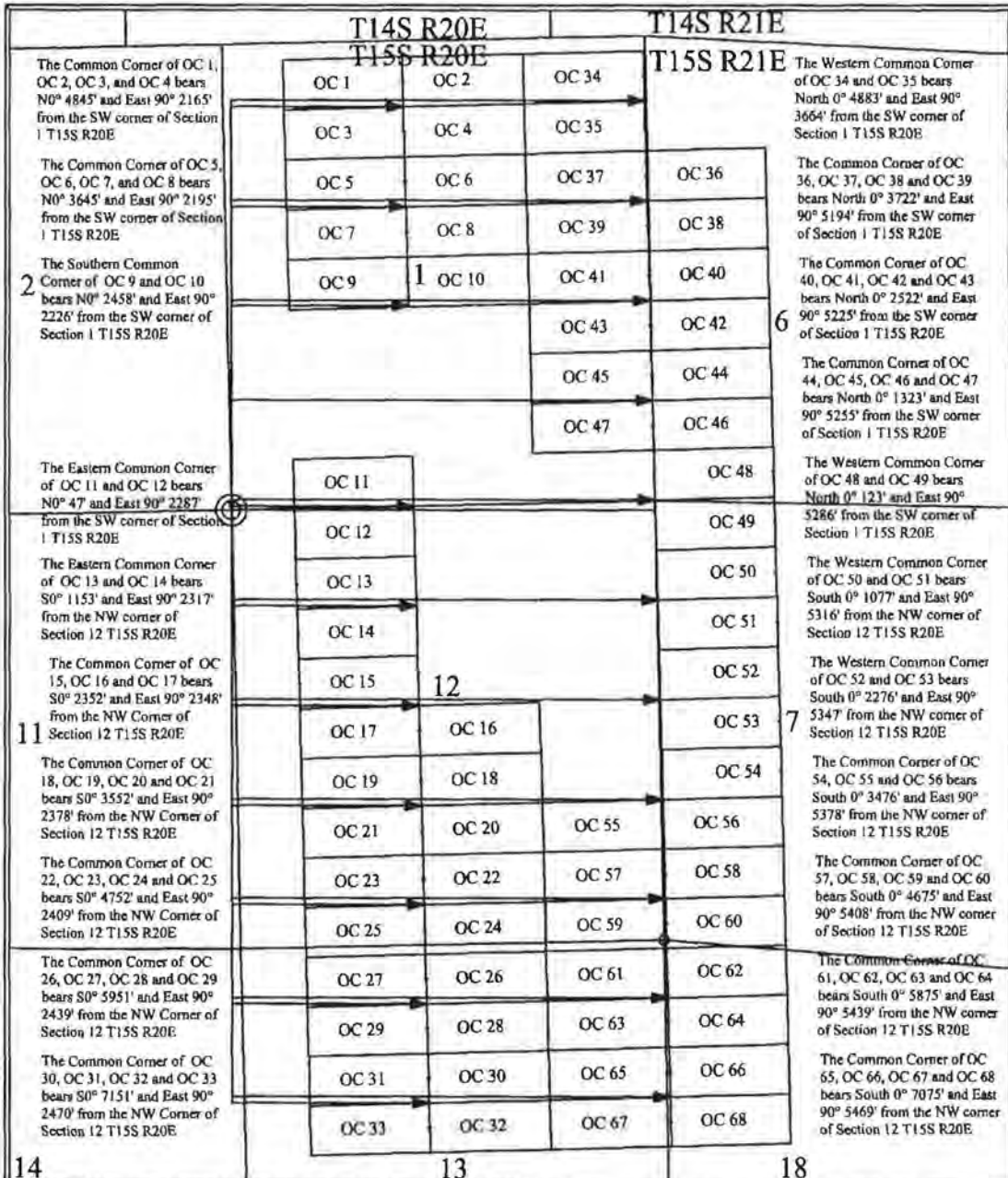
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

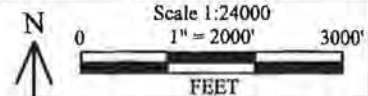
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4' wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North. San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of
the record filed or received in this office if it bears the
seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

Certified Copy of document number 2010003181

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003181

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for recording fee

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001622
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 9 Lode Mining Claim in the following quarter section(s):

¼	Section	Township	Range	Meridian
NW	1	15 South	20 East	S.B.B.&M.
SW	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears NORTH and 2458 feet and bears East and 2226 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

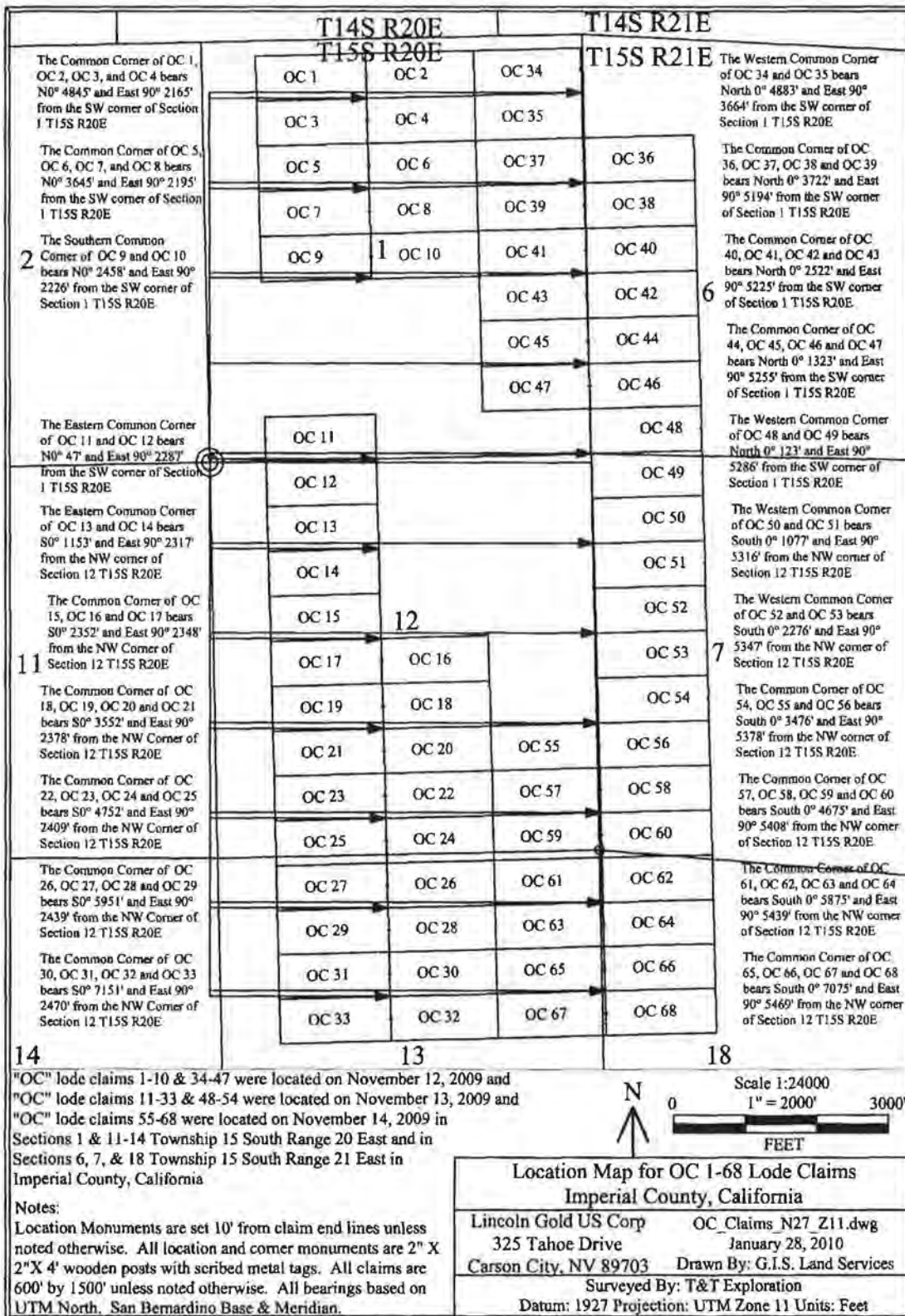
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

Certified Copy of document number 2010003182

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003182

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001623
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 10 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	1	15 South	20 East	S.B.B.&M.
NE	1	15 South	20 East	S.B.B.&M.
SW	1	15 South	20 East	S.B.B.&M.
SE	1	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SW corner of this claim bears NORTH and 2458 feet and bears East and 2226 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

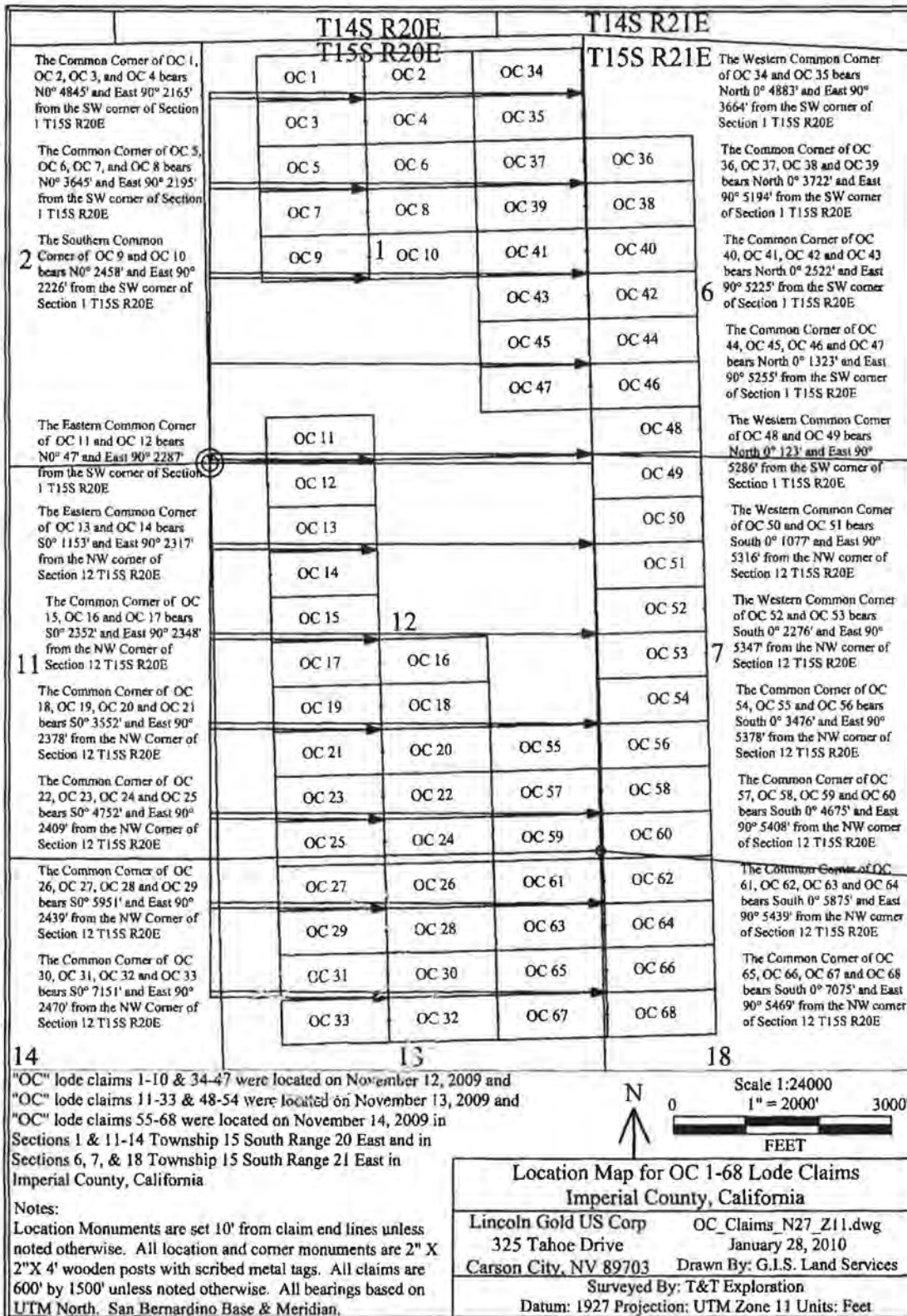
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By:


H. H. Fenking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



SEP 13 2022

By Y
Deputy

Certified copy of document number 2010003183

THIS IS A TRUE CERTIFIED COPY OF THE RECORD, IF IT BEARS THE SEAL AND SIGNATURE OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003183

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50

PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001624
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 11 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	1	15 South	20 East	S.B.B.&M.
NW	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears NORTH and 47 feet and bears East and 2287 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

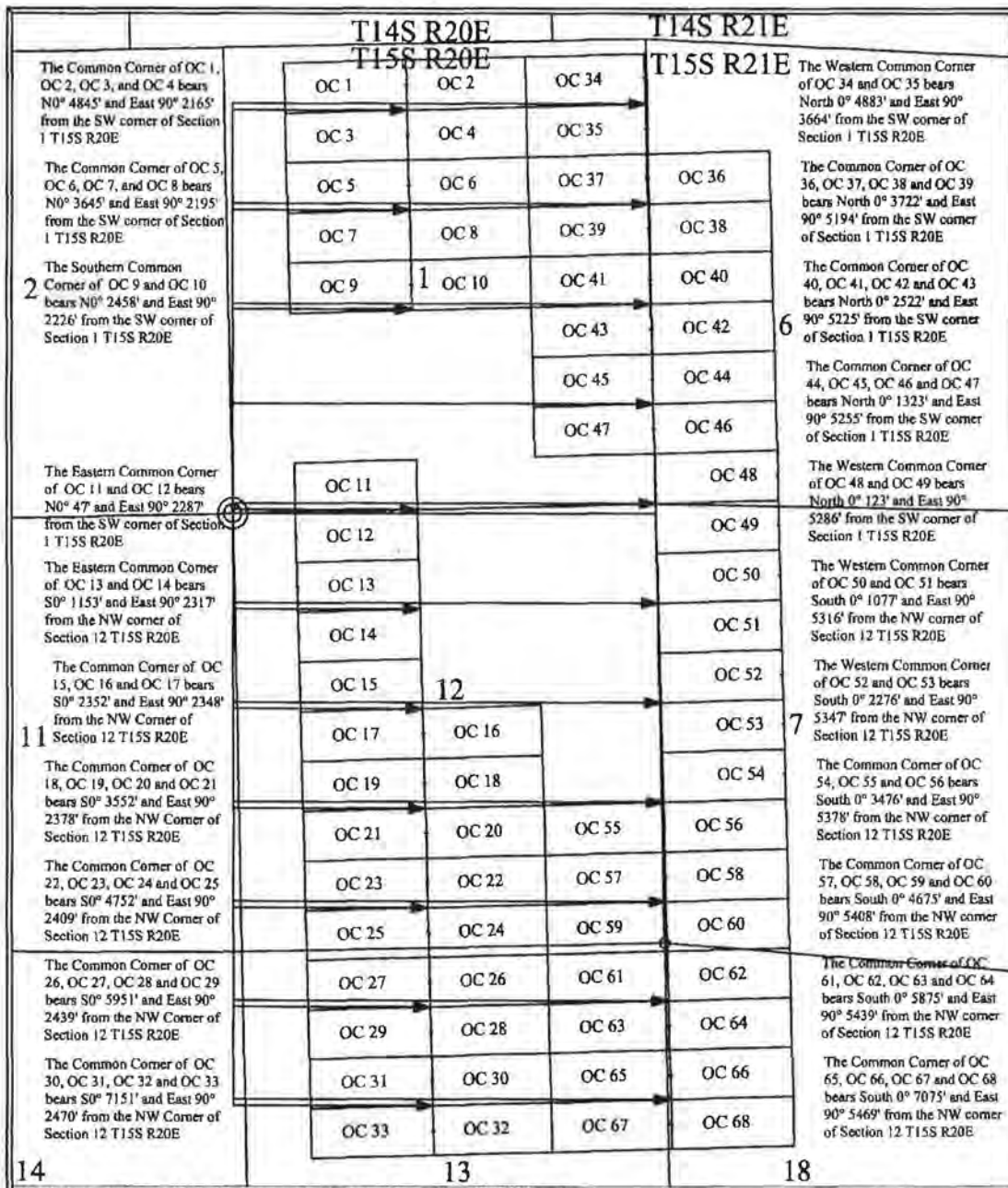
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

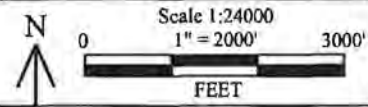
By:


H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4" wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By



Deputy

Certified Copy of document number 2010003184

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RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003184

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

SPACE ABOVE FOR RECORDING USE

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001625
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 12 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NE corner of this claim bears NORTH and 47 feet and bears East and 2287 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

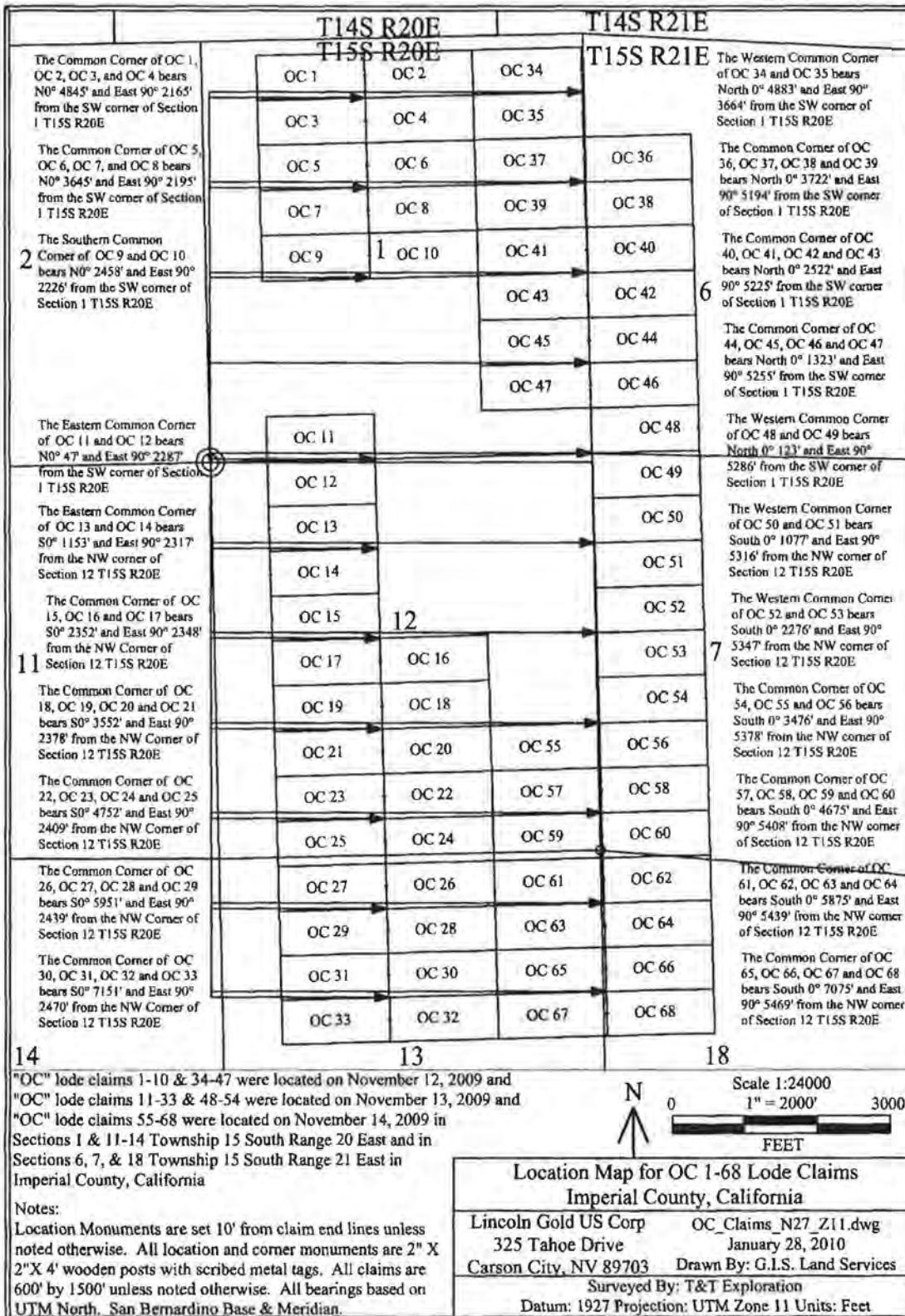
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By:


H. H. Tanking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

Certified Copy of document number 2010003185

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003185

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001626
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 13 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears SOUTH and 1153 feet and bears East and 2317 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

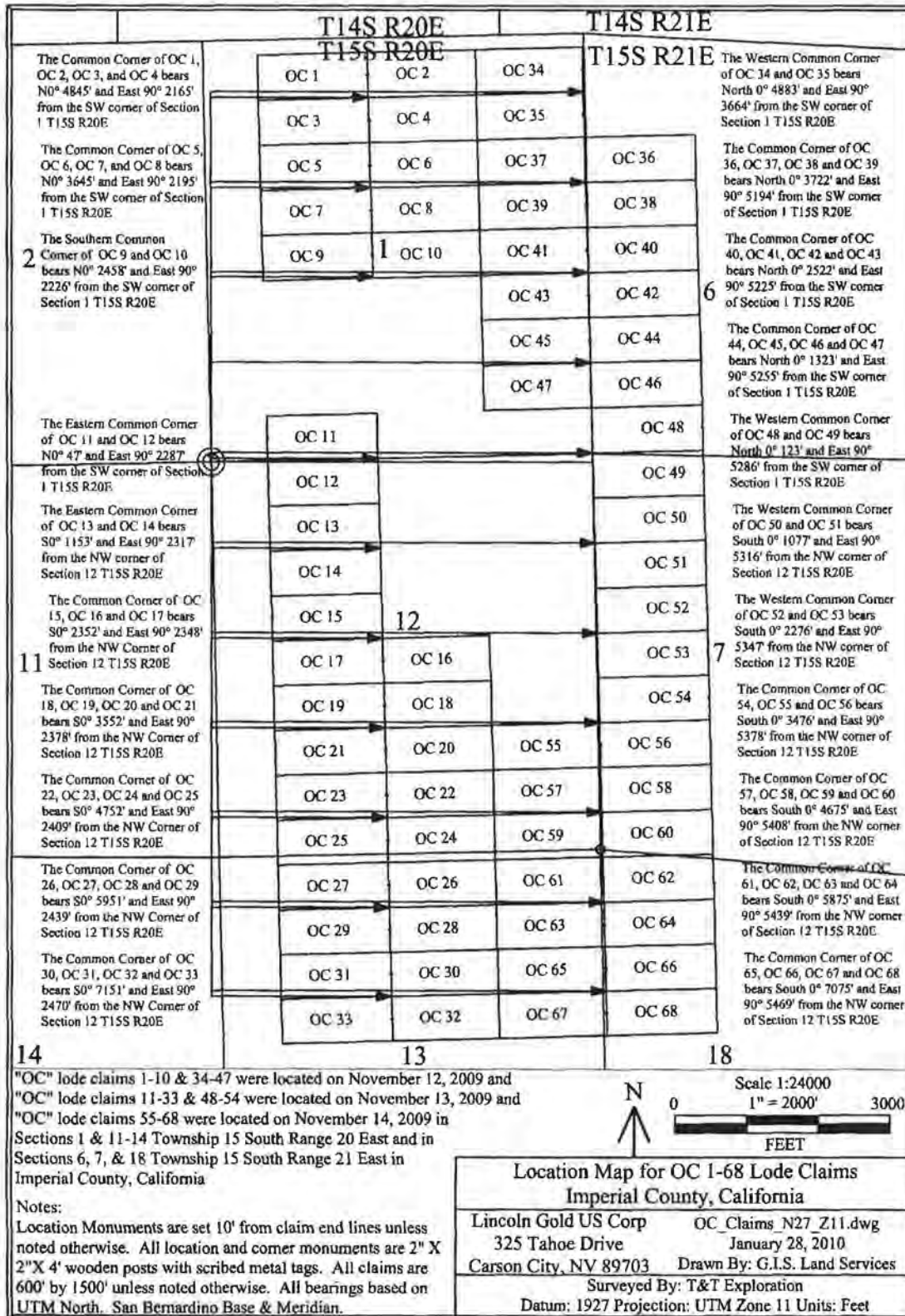
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



SEP 13 2022

By 
Deputy

Certified Copy of document number 2010003186

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003186

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001627
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 14 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The NE corner of this claim bears SOUTH and 1153 feet and bears East and 2317 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

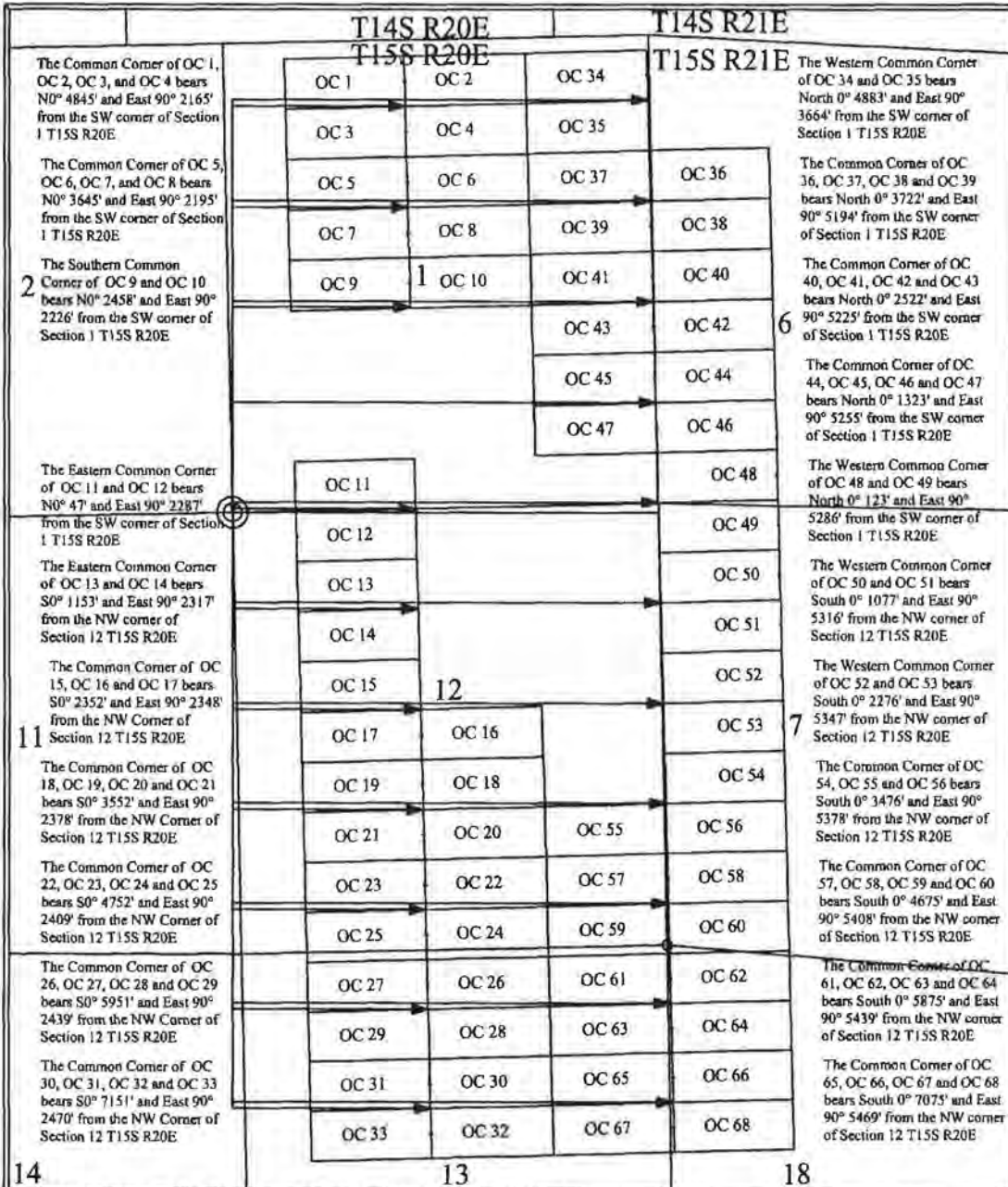
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

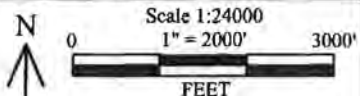
Lincoln Gold US Corp.

By: 
H. H. Tenking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4" wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North. San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storcy
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022 By 

Certified Copy of document number 2010003187

THIS IS A TRUE CERTIFIED COPY OF THE RECORD, IF IT BEARS THE SEAL AND SIGNATURE OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022
CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: **2010-003187**

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001628
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 15 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears SOUTH and 2352 feet and bears East and 2348 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

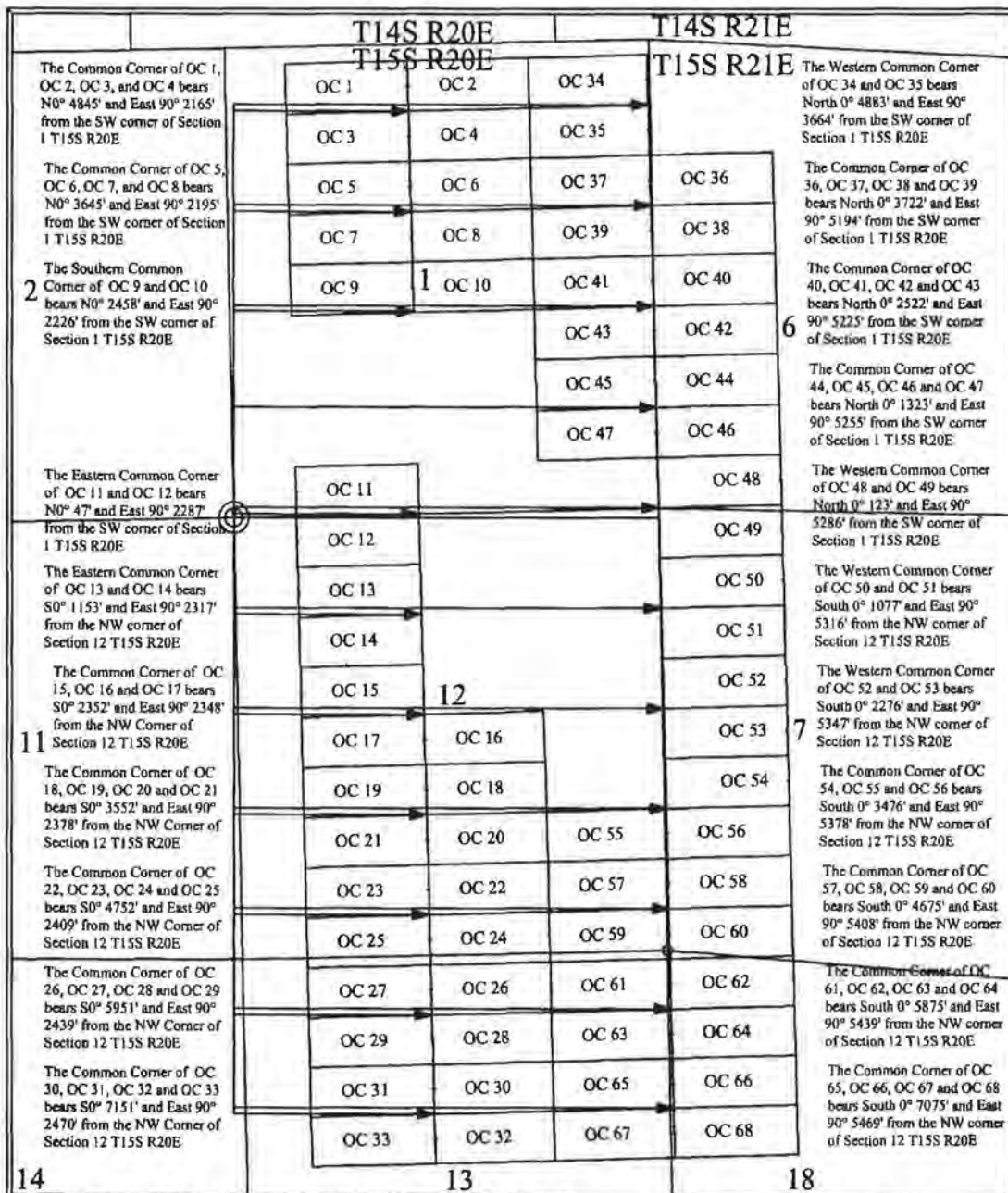
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

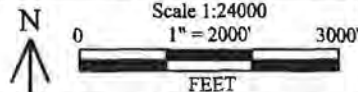
By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:

Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp OC_Claims_N27_Z11.dwg
 325 Tahoe Drive January 28, 2010
 Carson City, NV 89703 Drawn By: G.I.S. Land Services

Surveyed By: T&T Exploration
 Datum: 1927 Projection: UTM Zone 11 Units: Feet

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By *[Signature]*
Deputy

Certified Copy of document number 2010003188

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003188

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001629
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 16 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.
NE	12	15 South	20 East	S.B.B.&M.
SW	12	15 South	20 East	S.B.B.&M.
SE	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears SOUTH and 2352 feet and bears East and 2348 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702


STATEMENT OF THE BOUNDARIES:

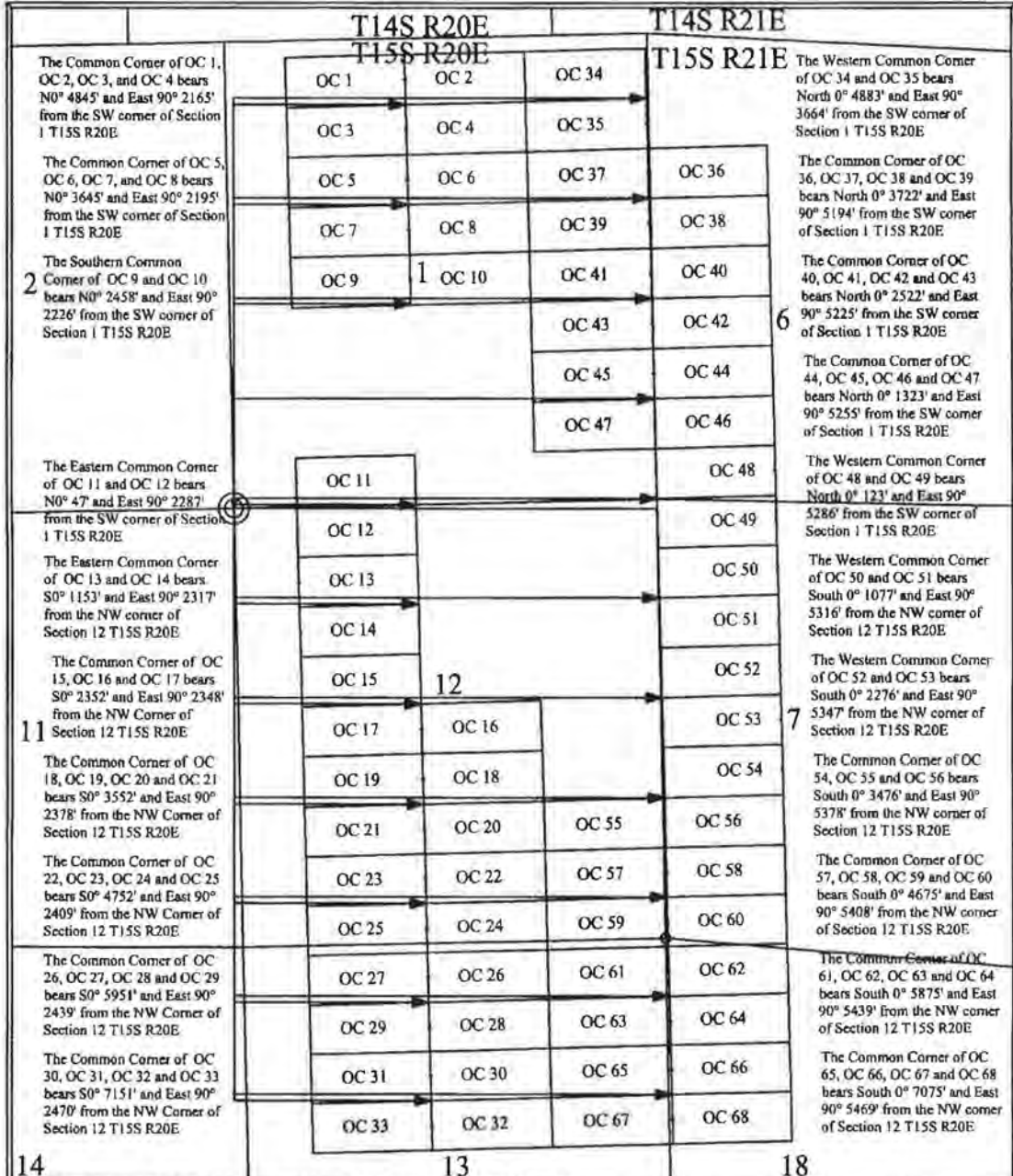
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

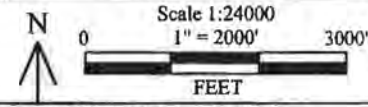
By:


H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022

By  Deputy

Certified Copy of document number 2010003189

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022
CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003189

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001630
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 17 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	12	15 South	20 East	S.B.B.&M.
SW	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NE corner of this claim bears SOUTH and 2352 feet and bears East and 2348 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.


Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

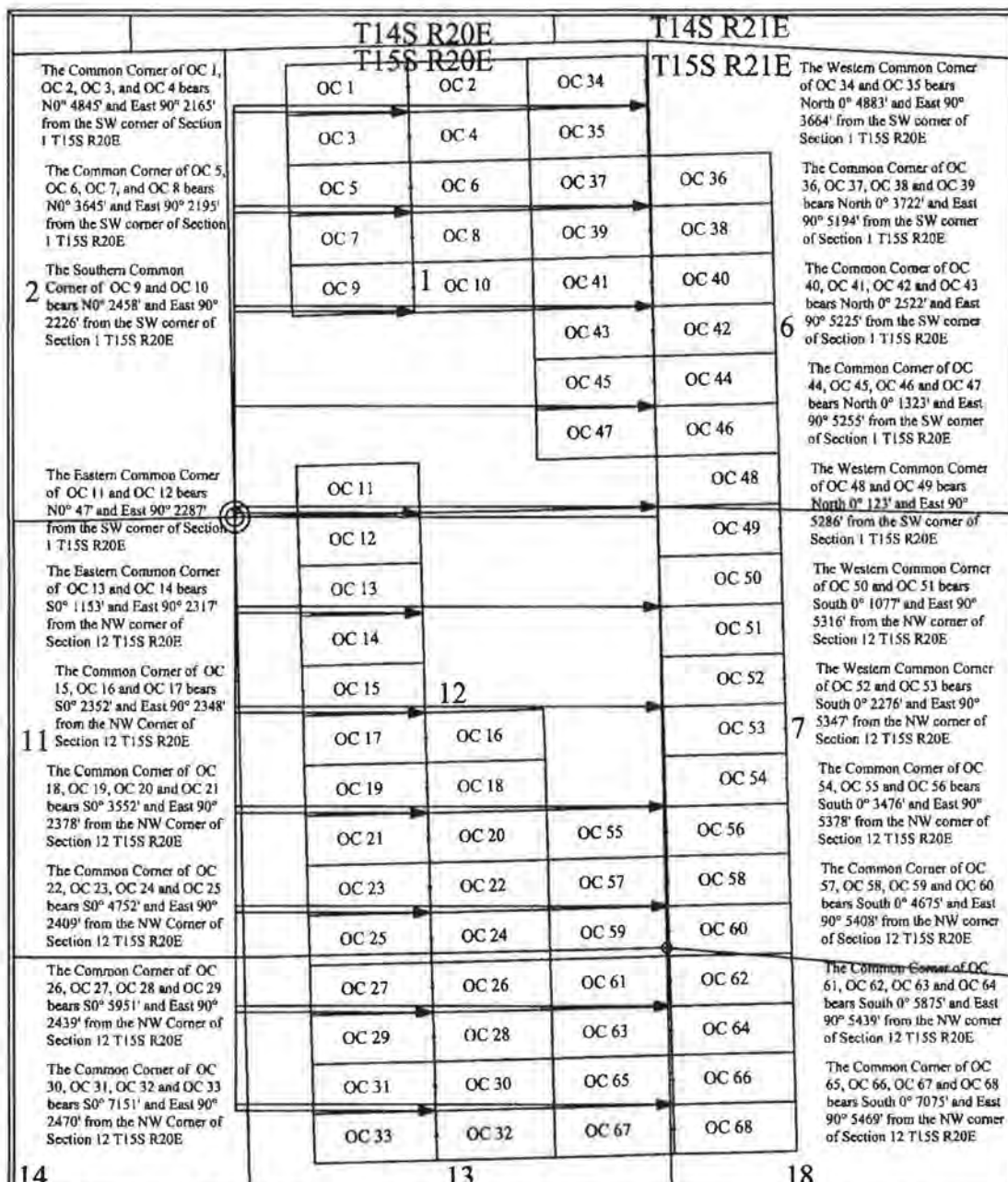
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Fooking, Agent



The Common Corner of OC 1, OC 2, OC 3, and OC 4 bears N0° 4845' and East 90° 2165' from the SW corner of Section 1 T15S R20E.

The Common Corner of OC 5, OC 6, OC 7, and OC 8 bears N0° 3645' and East 90° 2195' from the SW corner of Section 1 T15S R20E.

The Southern Common Corner of OC 9 and OC 10 bears N0° 2458' and East 90° 2226' from the SW corner of Section 1 T15S R20E.

The Eastern Common Corner of OC 11 and OC 12 bears N0° 47' and East 90° 2287' from the SW corner of Section 1 T15S R20E.

The Eastern Common Corner of OC 13 and OC 14 bears S0° 1153' and East 90° 2317' from the NW corner of Section 12 T15S R20E.

The Common Corner of OC 15, OC 16 and OC 17 bears S0° 2352' and East 90° 2348' from the NW Corner of Section 12 T15S R20E.

The Common Corner of OC 18, OC 19, OC 20 and OC 21 bears S0° 3552' and East 90° 2378' from the NW Corner of Section 12 T15S R20E.

The Common Corner of OC 22, OC 23, OC 24 and OC 25 bears S0° 4752' and East 90° 2409' from the NW Corner of Section 12 T15S R20E.

The Common Corner of OC 26, OC 27, OC 28 and OC 29 bears S0° 5951' and East 90° 2439' from the NW Corner of Section 12 T15S R20E.

The Common Corner of OC 30, OC 31, OC 32 and OC 33 bears S0° 7151' and East 90° 2470' from the NW Corner of Section 12 T15S R20E.

The Western Common Corner of OC 34 and OC 35 bears North 0° 4883' and East 90° 3664' from the SW corner of Section 1 T15S R20E.

The Common Corner of OC 36, OC 37, OC 38 and OC 39 bears North 0° 3722' and East 90° 5194' from the SW corner of Section 1 T15S R20E.

The Common Corner of OC 40, OC 41, OC 42 and OC 43 bears North 0° 2522' and East 90° 5225' from the SW corner of Section 1 T15S R20E.

The Common Corner of OC 44, OC 45, OC 46 and OC 47 bears North 0° 1323' and East 90° 5255' from the SW corner of Section 1 T15S R20E.

The Western Common Corner of OC 48 and OC 49 bears North 0° 123' and East 90° 5286' from the SW corner of Section 1 T15S R20E.

The Western Common Corner of OC 50 and OC 51 bears South 0° 1077' and East 90° 5316' from the NW corner of Section 12 T15S R20E.

The Western Common Corner of OC 52 and OC 53 bears South 0° 2276' and East 90° 5347' from the NW corner of Section 12 T15S R20E.

The Common Corner of OC 54, OC 55 and OC 56 bears South 0° 3476' and East 90° 5378' from the NW corner of Section 12 T15S R20E.

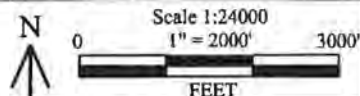
The Common Corner of OC 57, OC 58, OC 59 and OC 60 bears South 0° 4675' and East 90° 5408' from the NW corner of Section 12 T15S R20E.

The Common Corner of OC 61, OC 62, OC 63 and OC 64 bears South 0° 5875' and East 90° 5439' from the NW corner of Section 12 T15S R20E.

The Common Corner of OC 65, OC 66, OC 67 and OC 68 bears South 0° 7075' and East 90° 5469' from the NW corner of Section 12 T15S R20E.

14 "OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp OC_Claims_N27_Z11.dwg
 325 Tahoe Drive January 28, 2010
 Carson City, NV 89703 Drawn By: G.I.S. Land Services

Surveyed By: T&T Exploration
 Datum: 1927 Projection: UTM Zone 11 Units: Feet

Certified Copy of document number 2010003190

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003190

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001631
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 18 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	12	15 South	20 East	S.B.B.&M.
SE	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The SW corner of this claim bears SOUTH and 3552 feet and bears East and 2378 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

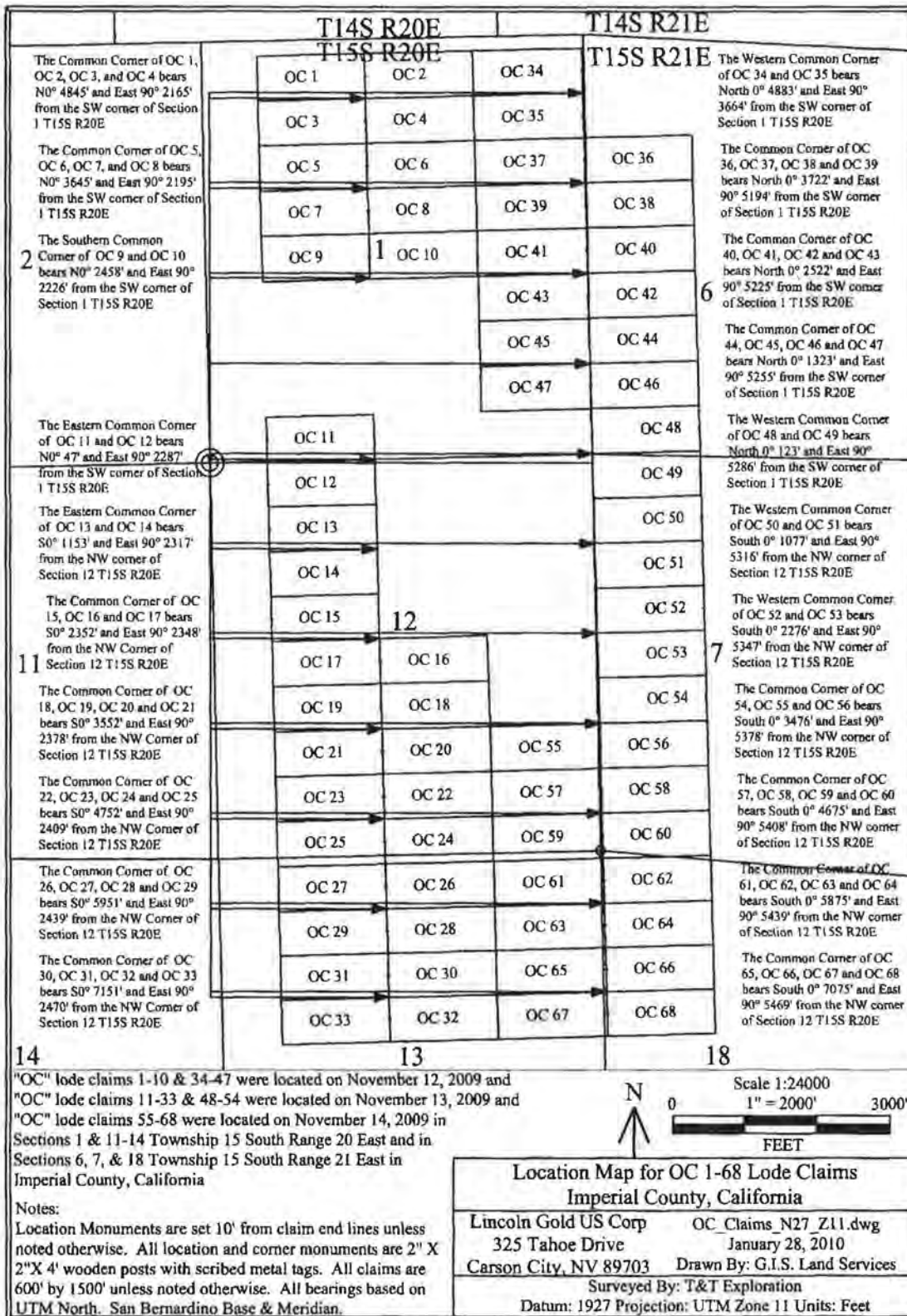
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022

By

[Signature]
Deputy

Certified Copy of document number 2010003191

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: **2010-003191**

Titles: 1 Pages: 2



Fees 10.00
Taxes 8.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001632
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 19 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>SW</u>	<u>12</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears SOUTH and 3552 feet and bears East and 2378 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By  Deputy

SEP 13 2022

Certified Copy of document number 2010003192

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003192

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID 511.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001633
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 20 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	12	15 South	20 East	S.B.B.&M.
SE	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears SOUTH and 3552 feet and bears East and 2378 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022

By



Deputy

Certified Copy of document number 2010003193

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003193

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001634
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 21 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>SW</u>	<u>12</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The NE corner of this claim bears SOUTH and 3552 feet and bears East and 2378 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

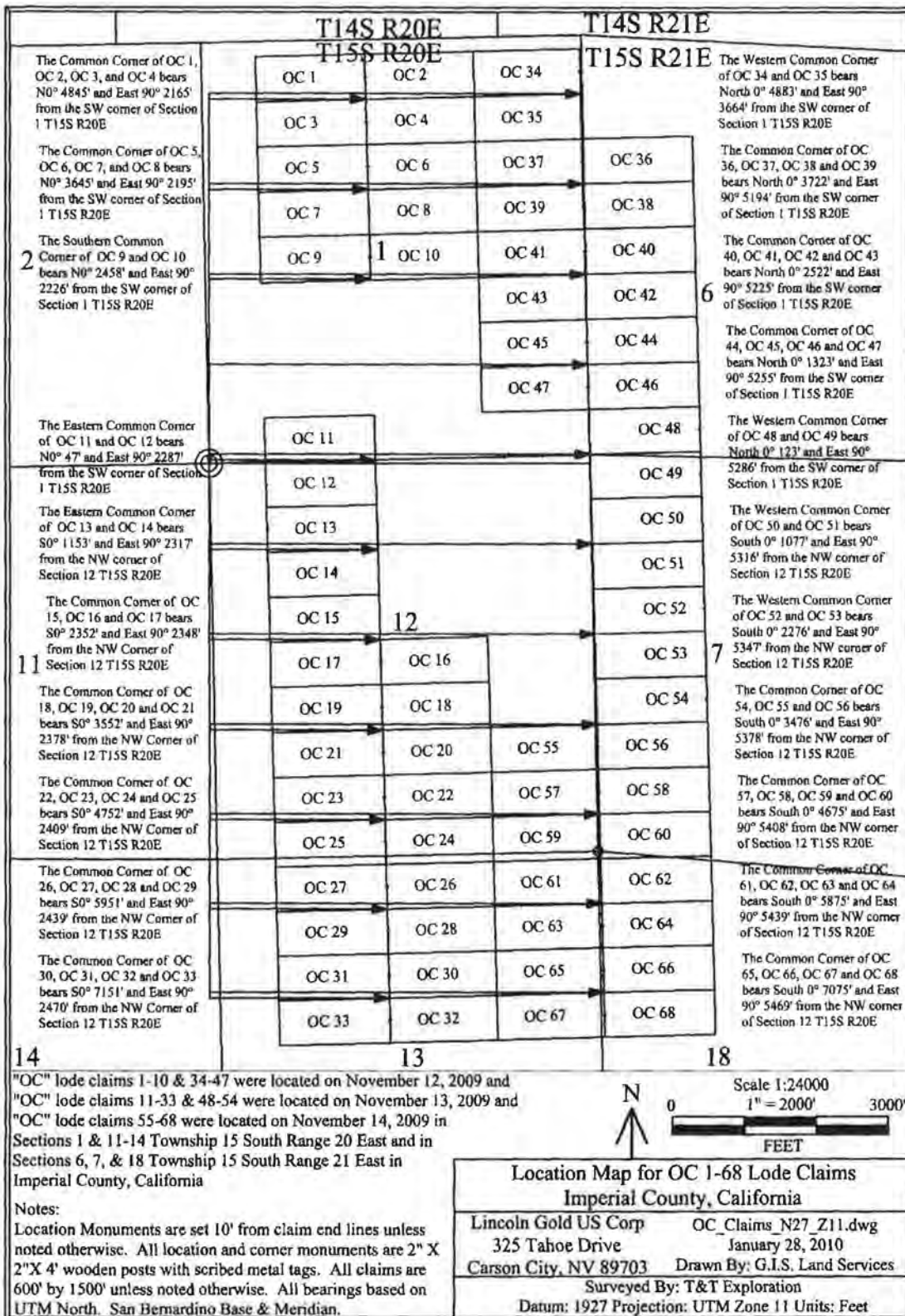
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By:


H. H. Fonking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022 By


Deputy

Certified Copy of document number 2010003194

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003194

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001635
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 22 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	12	15 South	20 East	S.B.B.&M.
SE	12	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The SW corner of this claim bears SOUTH and 4752 feet and bears East and 2409 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

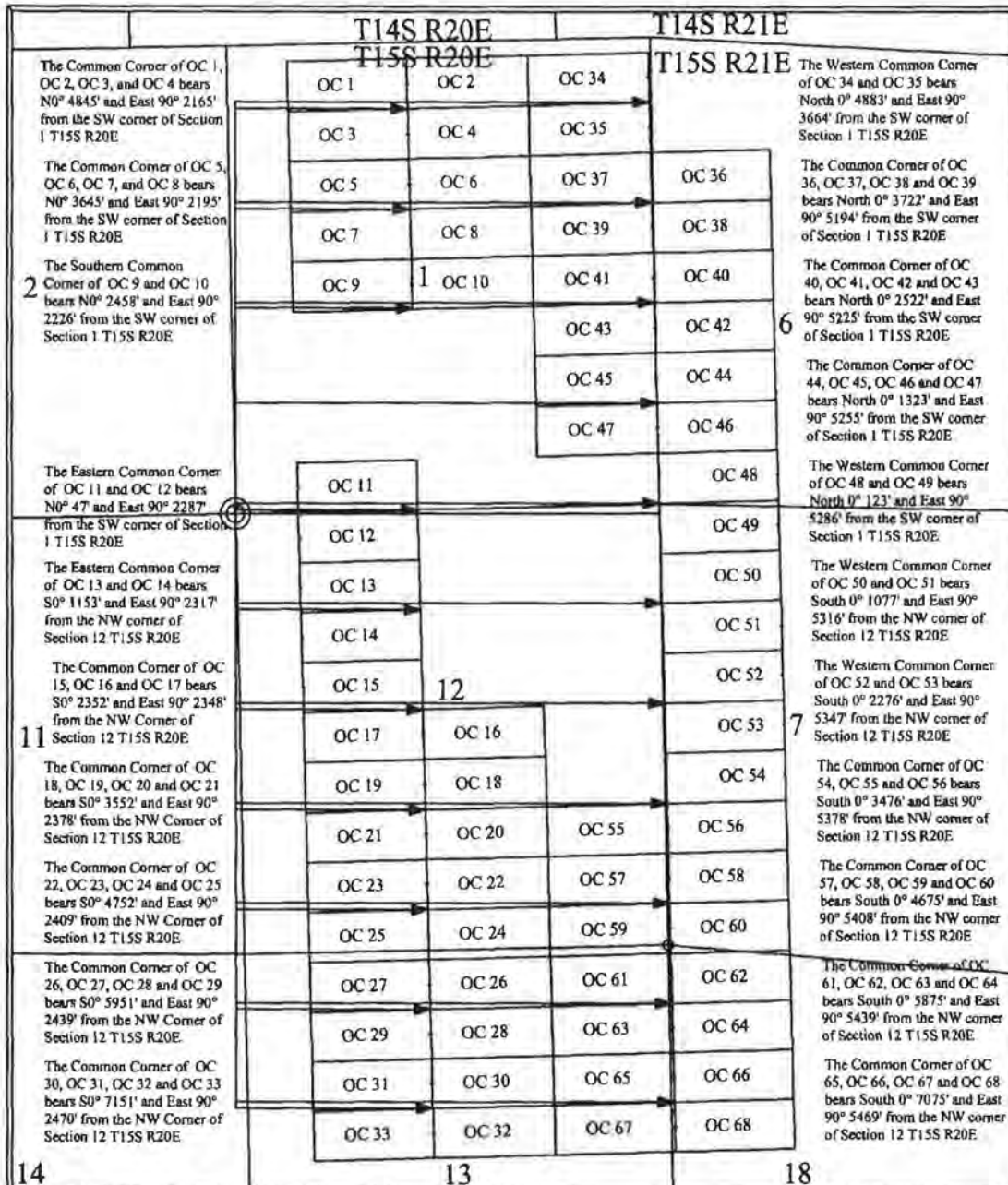
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By:

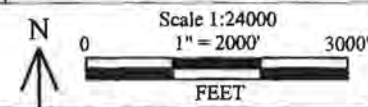
H. H. Tonking, Agent



14 13 18

"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp OC_Claims_N27_Z11.dwg
 325 Tahoe Drive January 28, 2010
 Carson City, NV 89703 Drawn By: G.I.S. Land Services

Surveyed By: T&T Exploration
 Datum: 1927 Projection: UTM Zone 11 Units: Feet

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By

[Signature]
Deputy

Certified Copy of document number 2010003195

THIS IS A TRUE CERTIFIED COPY OF THE RECORD, IF IT BEARS THE SEAL AND SIGNATURE OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022
CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003195



Titles: 1 Pages: 2
Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001636
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 23 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>SW</u>	<u>12</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The SE corner of this claim bears SOUTH and 4752 feet and bears East and 2409 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

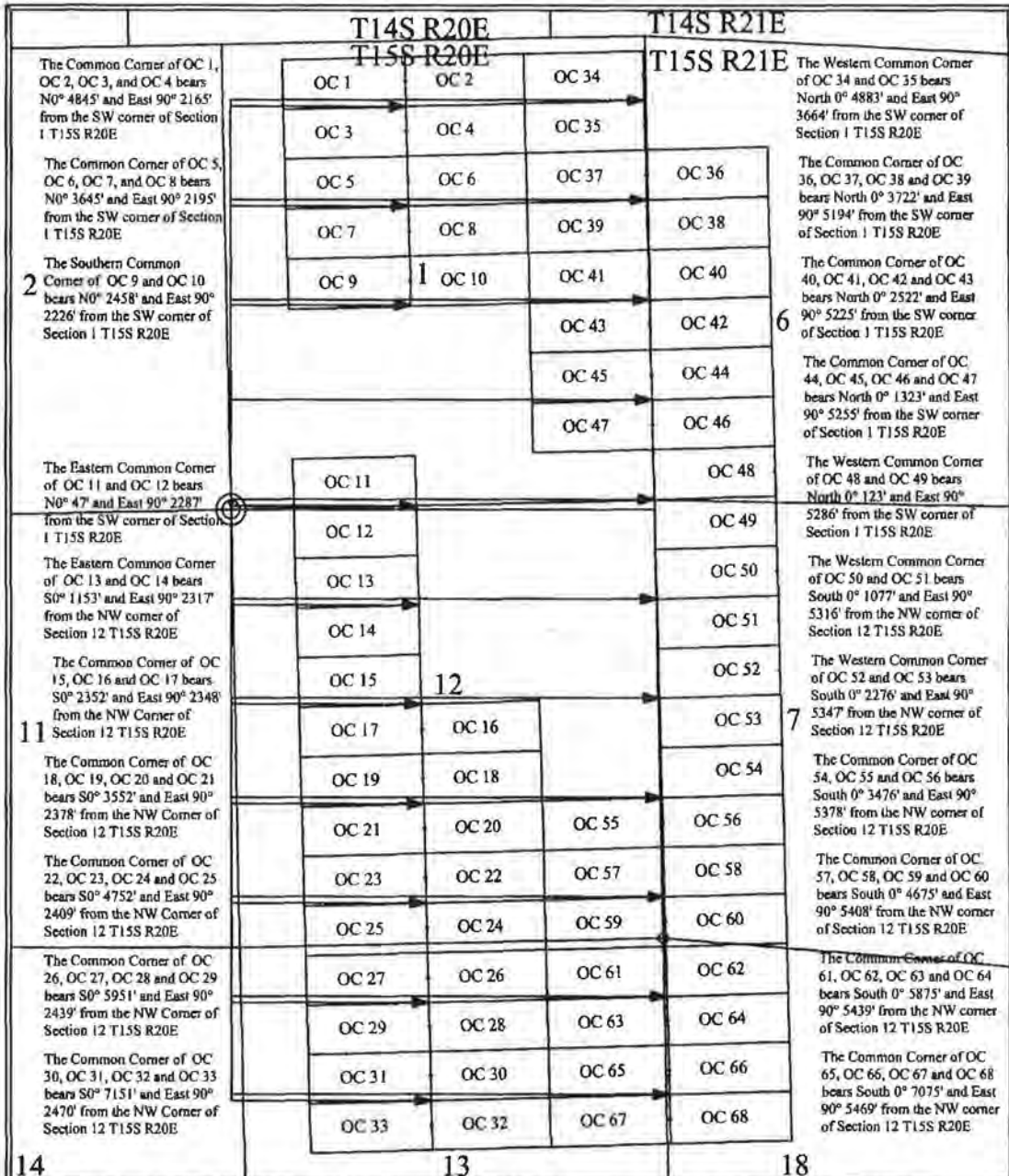
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



14
 "OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022

By

[Signature]

Deputy

Certified Copy of document number 2010003196

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003196

Titles: 1 Pages: 2



Fees 18.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for Recorder's Use

NOTICE OF LOCATION LODE MINING CLAIM

Amended for Imperial County - Document No. 2010001637
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 24 Lode Mining Claim in the following quarter section(s):

<u>1/4</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	12	15 South	20 East	S.B.B.&M.
NW	13	15 South	20 East	S.B.B.&M.
SE	12	15 South	20 East	S.B.B.&M.
SW NE	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 1/2" x 1 1/2" x 4' wood posts.

The NW corner of this claim bears SOUTH and 4752 feet and bears East and 2409 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

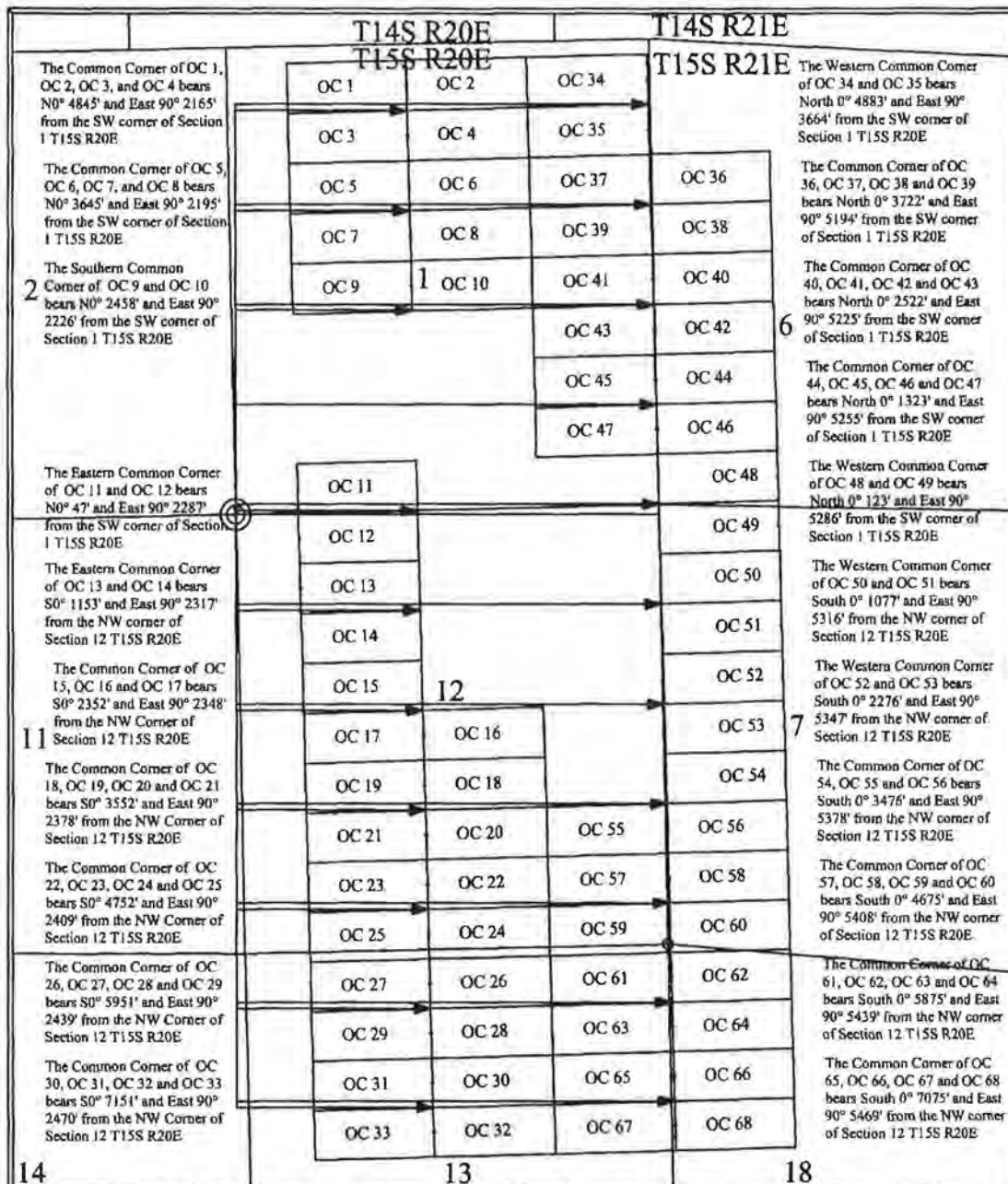
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 1/2" x 1 1/2" x 4' wood monument with scribed metal tag.

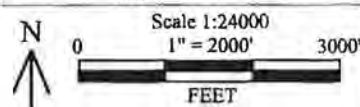
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



**Location Map for OC 1-68 Lode Claims
 Imperial County, California**

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



By *[Signature]*
Deputy

SEP 13 2022

Certified Copy of document number 2010003197

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003197

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for Recorder's Use

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001638
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 25 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
SW	12	15 South	20 East	S.B.B.&M.
NW	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NE corner of this claim bears SOUTH and 4752 feet and bears East and 2409 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

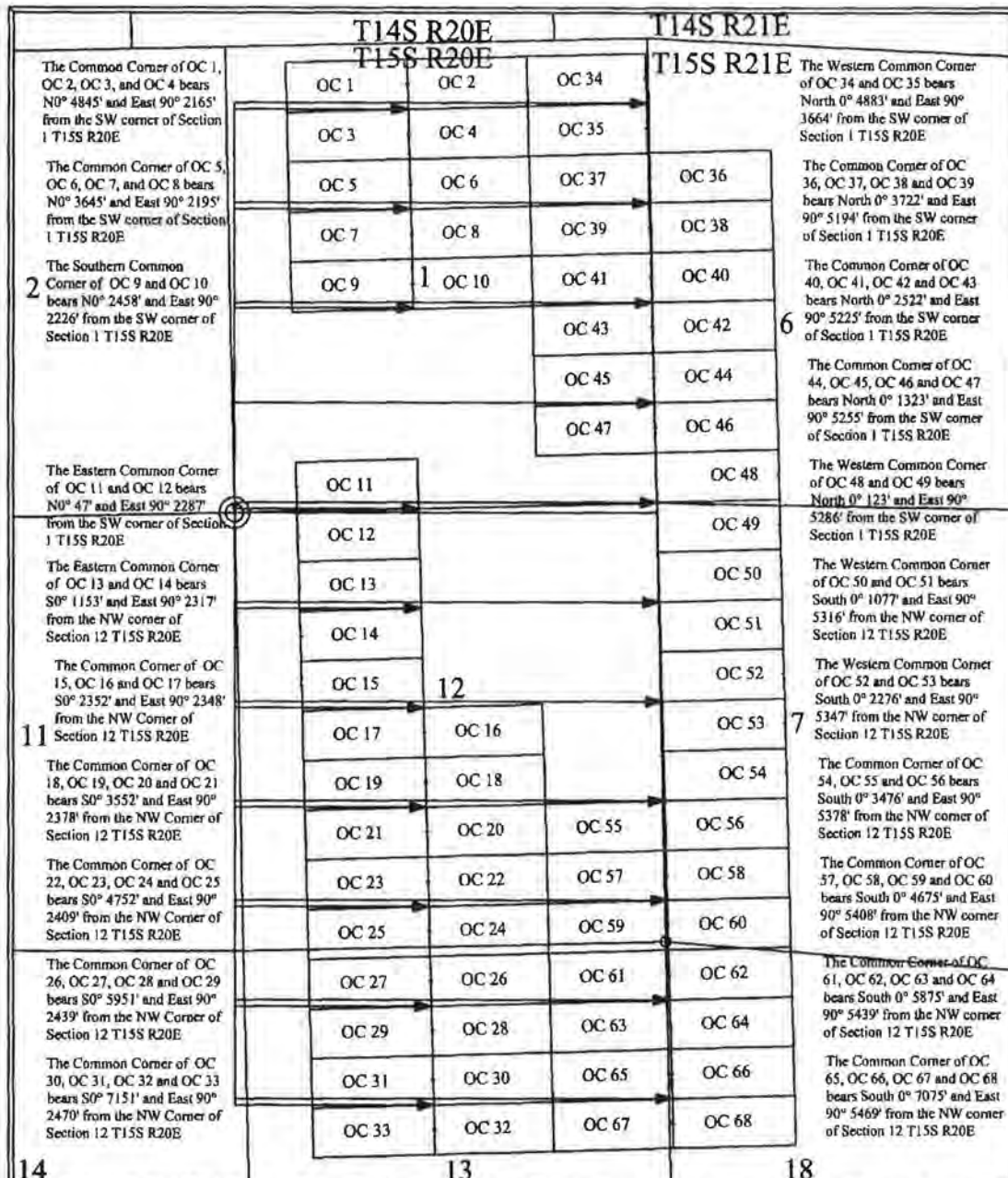
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

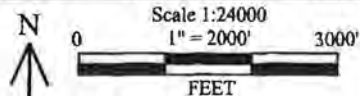
1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California



Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.

Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By

[Signature]
Deputy

Certified Copy of Document number 2010003198

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: **2010-003198**

Titles: **1** Pages: **2**



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001639
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 26 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
NE	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4" wood posts.

The SW corner of this claim bears SOUTH and 5951 feet and bears East and 2439 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

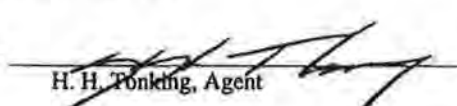
STATEMENT OF THE BOUNDARIES:

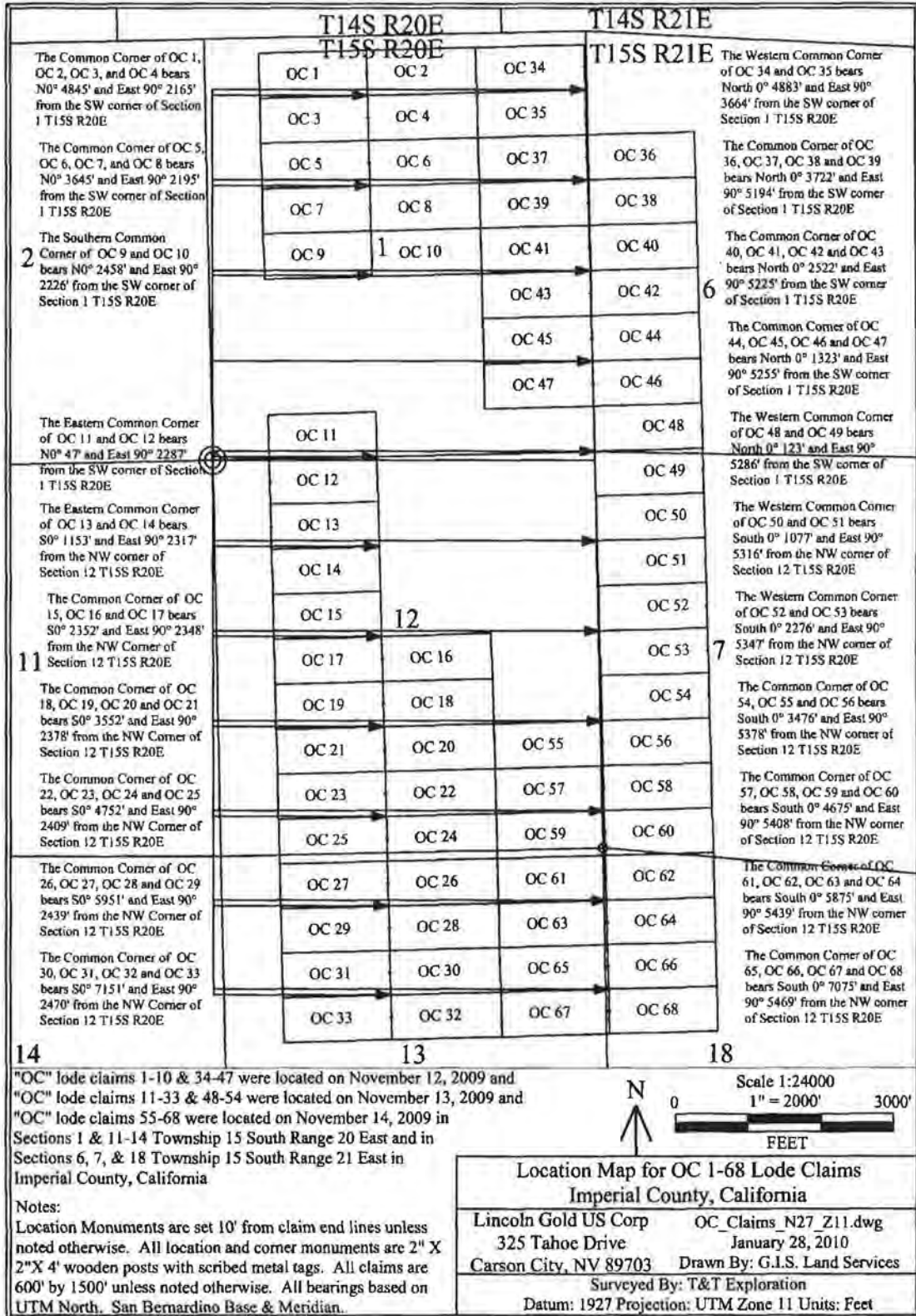
Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4" wood monument with scribed metal tag.

Lincoln Gold US Corp.

By:


H. H. Tonking, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:

SEP 13 2022

By

[Signature]
Deputy

Certified Copy of document number 2010003199

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: **2010-003199**

Titles: 1 Pages: 2



Fees 10.00
Taxes 8.00
Other 1.50
PAID \$11.50

Space above for Recorder's Use

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001640
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 27 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears SOUTH and 5951 feet and bears East and 2439 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

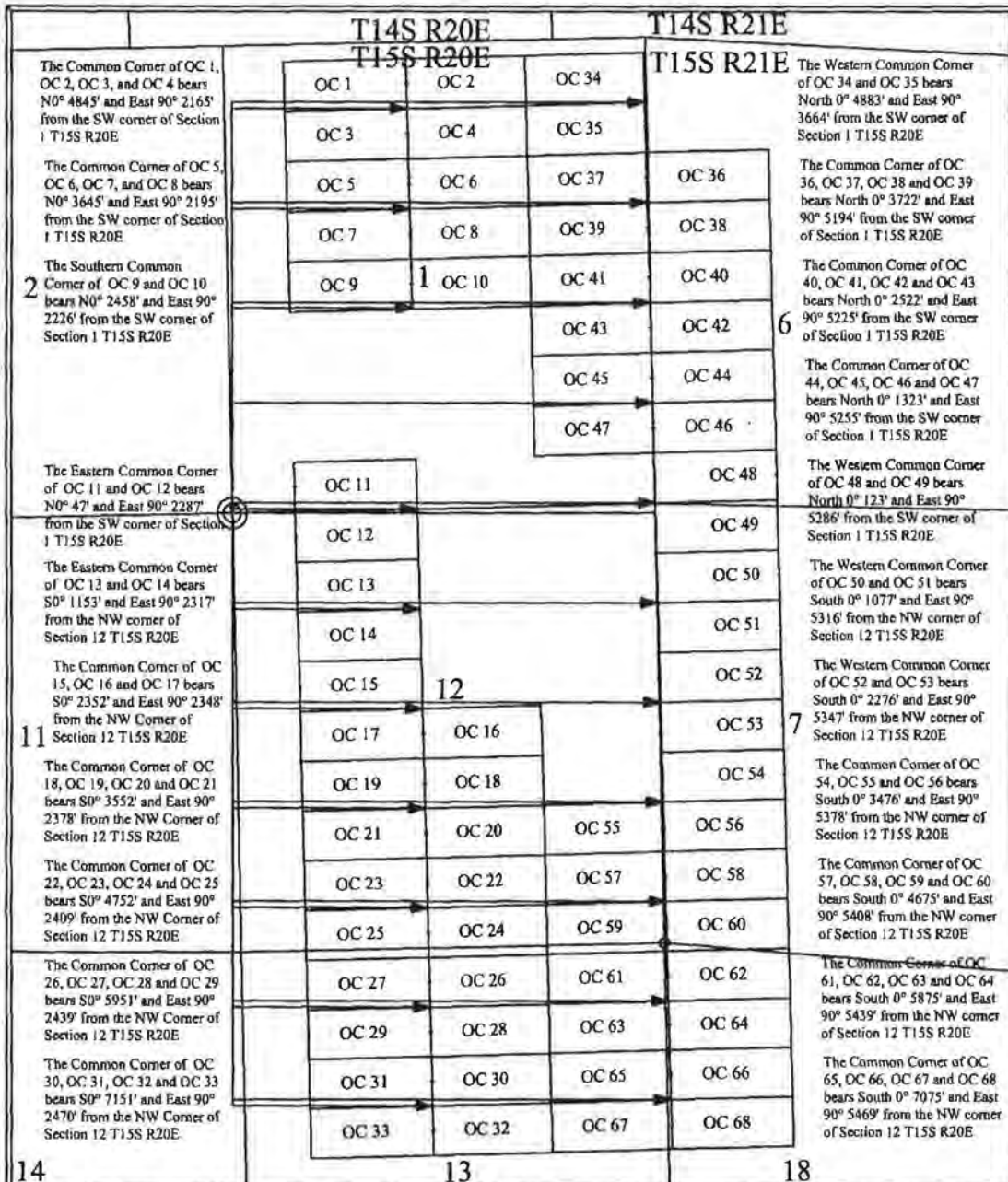
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

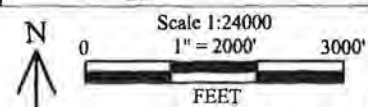
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4' wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims N27_Z11.dwg January 28, 2010 Drawn By: G.L.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date issued:
SEP 13 2022

By



Deputy

Certified Copy of Document number 2010003200

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: **2010 - 003200**

Titles: **1** Pages: **2**



Fees 18.00
Taxes 0.00
Other 1.50
PAID \$11.50

Space above for recording a Use

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001641
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 28 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
NE	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears SOUTH and 5951 feet and bears East and 2439 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

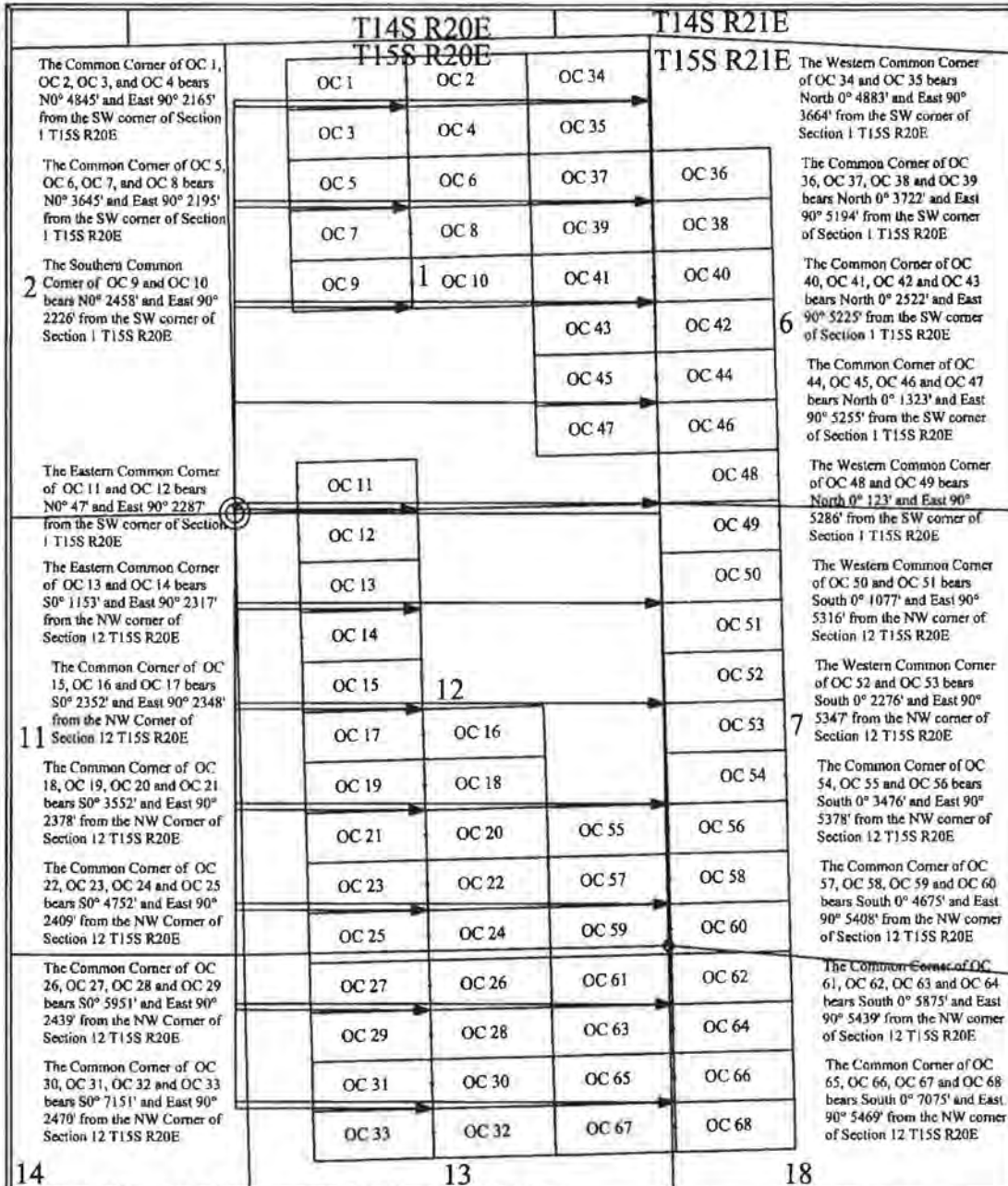
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

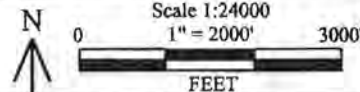
Lincoln Gold US Corp.

By: 
H. H. Tenking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless
 noted otherwise. All location and corner monuments are 2" X
 2" X 4' wooden posts with scribed metal tags. All claims are
 600' by 1500' unless noted otherwise. All bearings based on
 UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp OC_Claims_N27_Z11.dwg
 325 Tahoe Drive January 28, 2010
 Carson City, NV 89703 Drawn By: G.I.S. Land Services

Surveyed By: T&T Exploration
 Datum: 1927 Projection: UTM Zone 11 Units: Feet

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By

[Signature]
Deputy

Certified Copy of document number 2010003201

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003201

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001642
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 29 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4" wood posts.

The NE corner of this claim bears SOUTH and 5951 feet and bears East and 2439 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

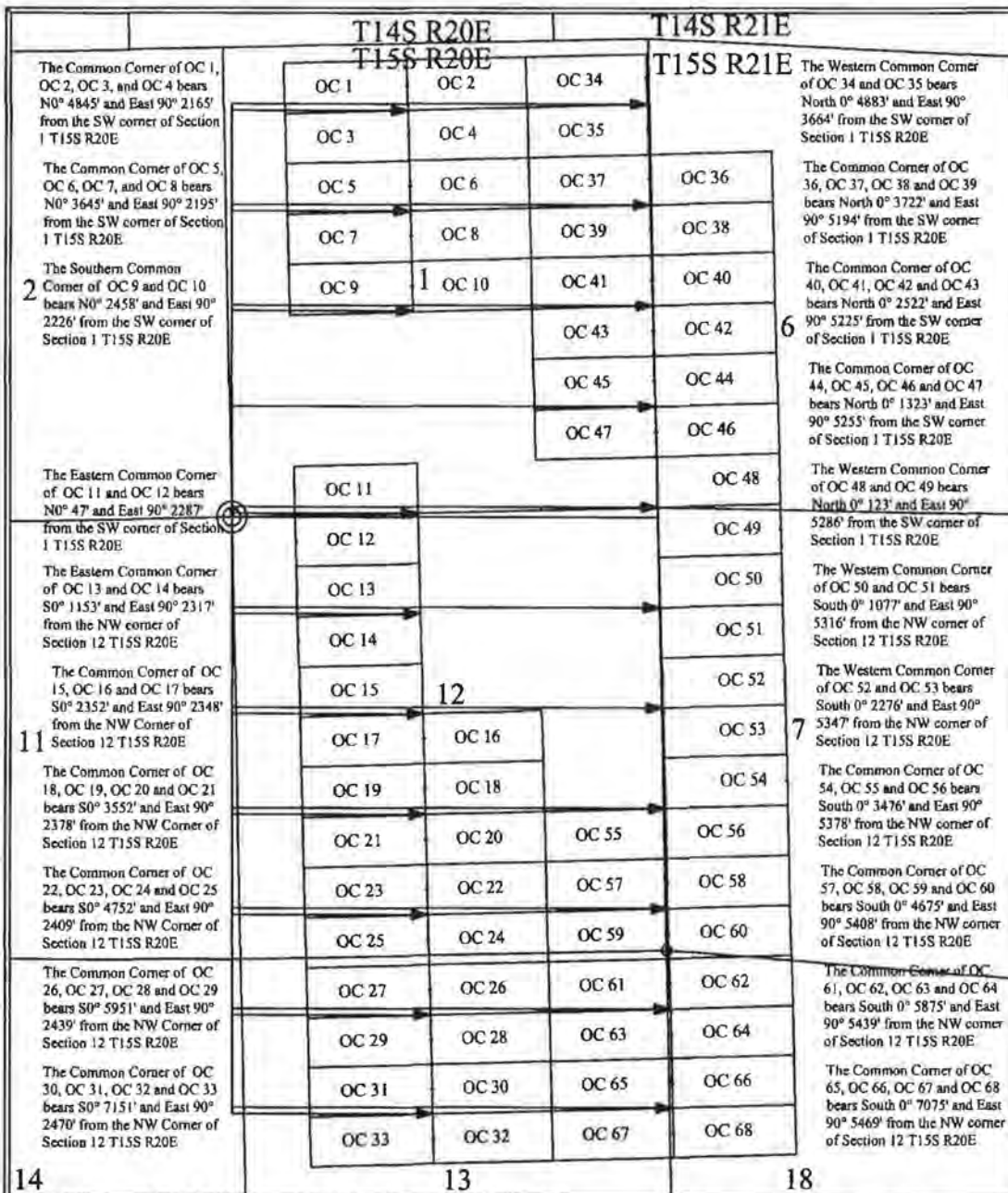
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4" wood monument with scribed metal tag.

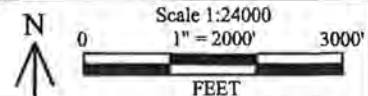
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp 325 Tahoe Drive Carson City, NV 89703	OC_Claims_N27_Z11.dwg January 28, 2010 Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date issued:



SEP 13 2022

By *[Signature]*
Deputy

Certified Copy of Document number 2010003202

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003202

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

SPACE ABOVE FOR RECORDER'S USE

NOTICE OF LOCATION LODE MINING CLAIM

**Amended for Imperial County - Document No. 2010001643
To correct a typographical error in the Meridian to S.B.B.&M.**

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 30 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
NE	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SW corner of this claim bears SOUTH and 7151 feet and bears East and 2470 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

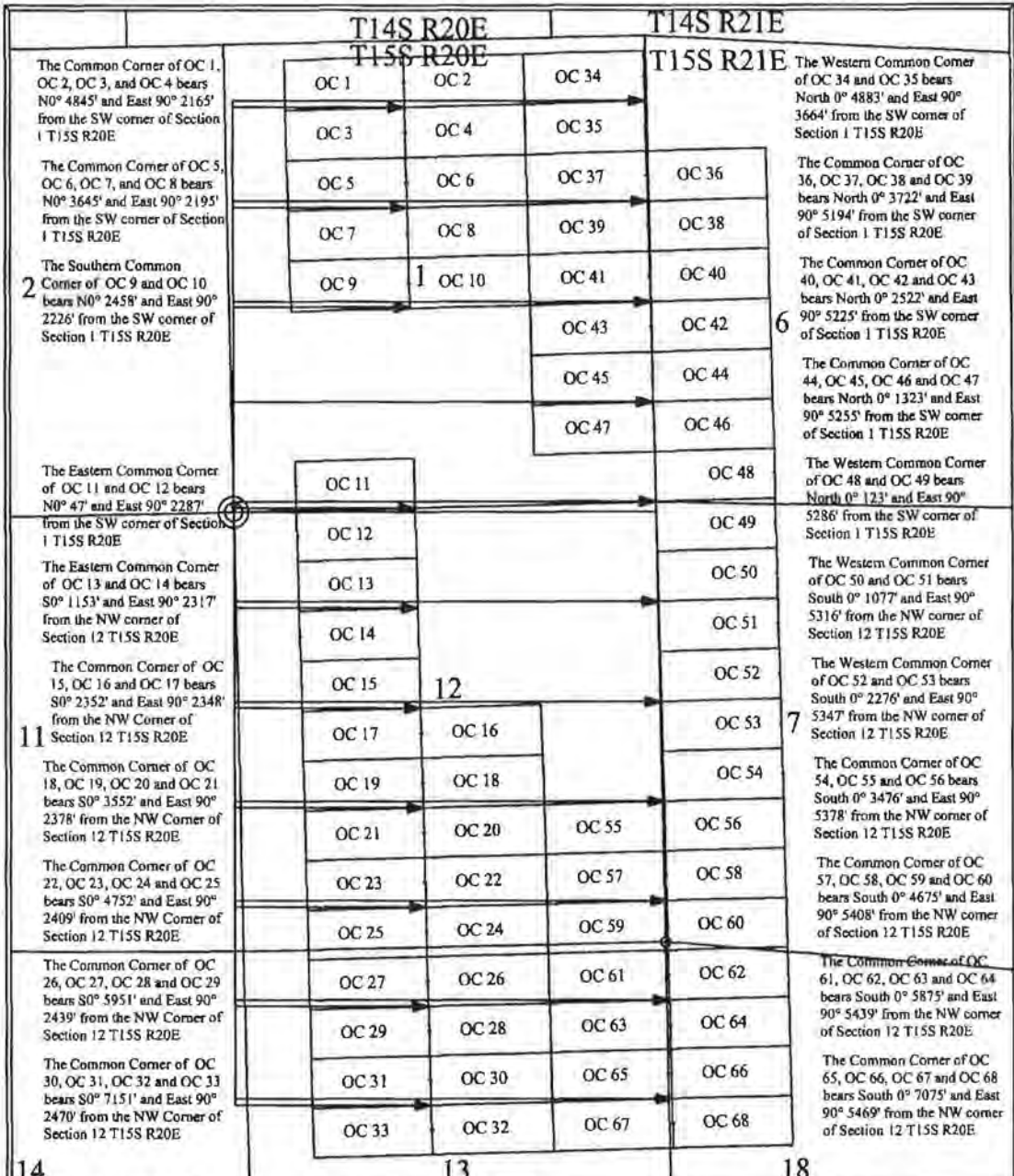
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

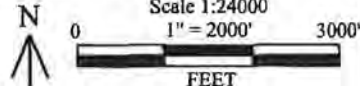
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North, San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.I.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California

Date Issued:

SEP 13 2022

By


Deputy



Certified Copy of document number 2010003203

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003203

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001644
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 31 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>NW</u>	<u>13</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The SE corner of this claim bears SOUTH and 7151 feet and bears East and 2470 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

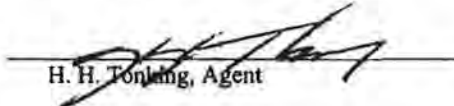
Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

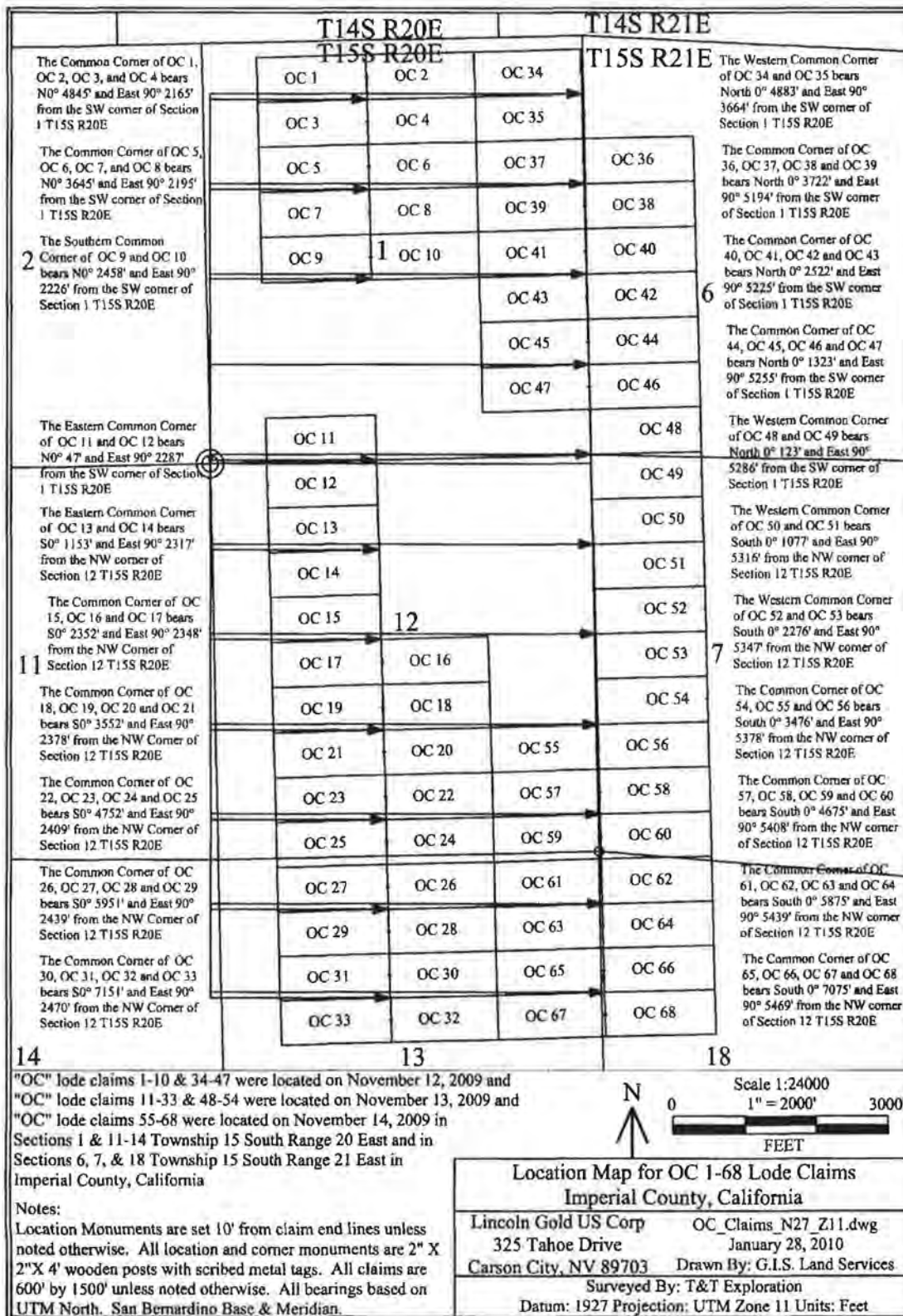
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonjling, Agent



I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:
SEP 13 2022

By  Deputy

Certified Copy of Document number 2010003204

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003204

Titles: 1 Pages: 2



Fees 10.00
Taxes 6.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001645
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 32 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.
NE	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 1490 feet in a East direction and 10 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NW corner of this claim bears SOUTH and 7151 feet and bears East and 2470 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.

Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.

Chuck Storey

Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022 By *[Signature]*
Deputy

Certified Copy of document number 2010003205

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022

CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003205

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001646
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the OC 33 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
NW	13	15 South	20 East	S.B.B.&M.

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4' wood posts.

The NE corner of this claim bears SOUTH and 7151 feet and bears East and 2470 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 13th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

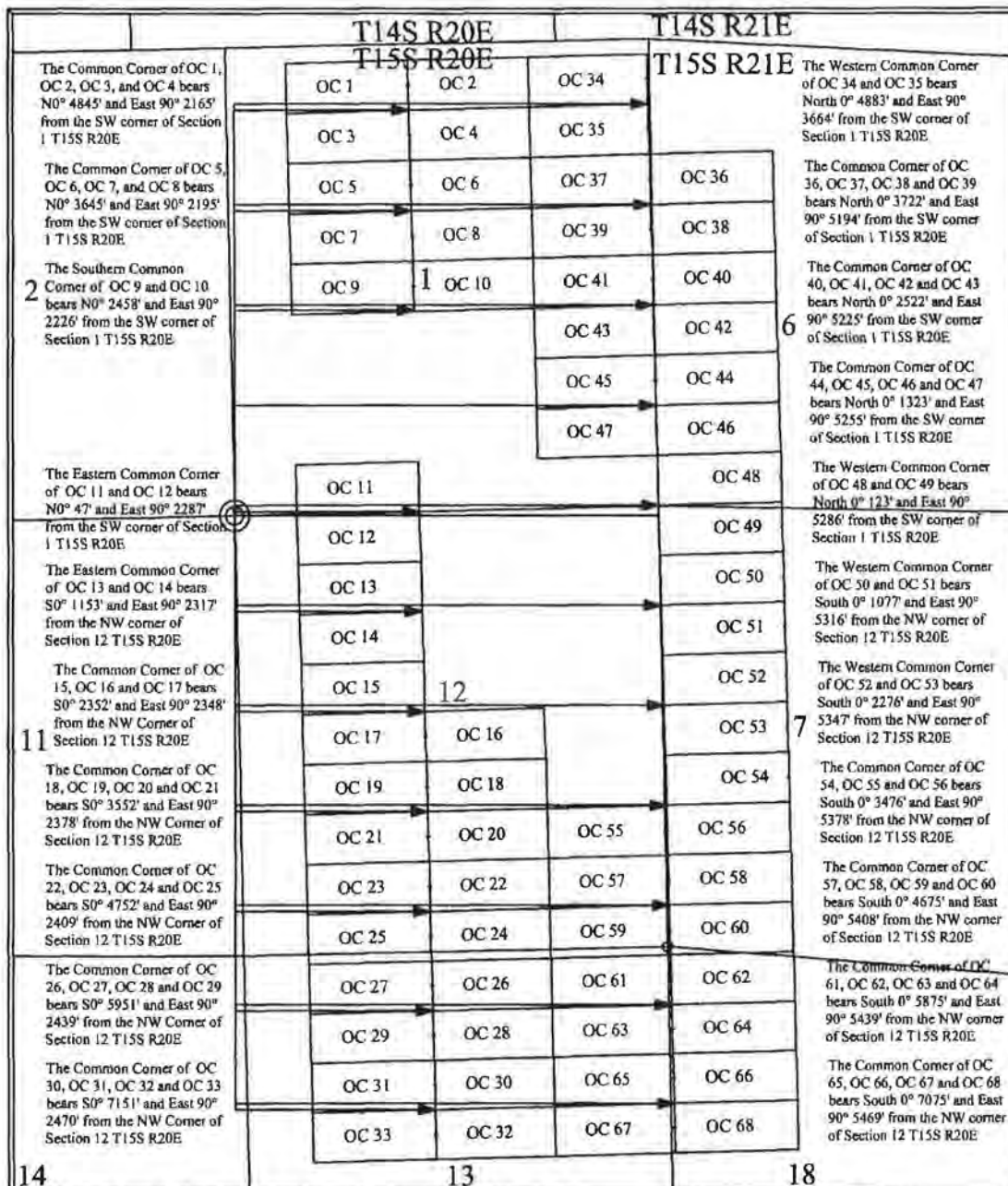
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4' wood monument with scribed metal tag.

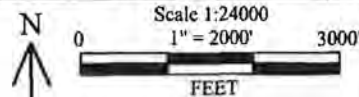
Lincoln Gold US Corp.

By: 
H. H. Fonking, Agent



14
 "OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California

Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4' wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North. San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.L.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.



Chuck Storey
County Clerk - Recorder
County of Imperial, State of California



Date Issued:
SEP 13 2022

By  Deputy

Certified Copy of document number 2010003206

THIS IS A TRUE CERTIFIED COPY OF THE
RECORD, IF IT BEARS THE SEAL AND SIGNATURE
OF THE IMPERIAL COUNTY CLERK-RECORDER

DATE: 9/13/2022
CERTIFICATION FEE: 3.50



COUNTY CLERK-RECORDER

IMPERIAL COUNTY
STATE OF CALIFORNIA

RECORDING REQUESTED BY AND MAIL TO:

Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89703

Recorded in Official Records, Imperial County

Dolores Provencio
County Clerk / Recorder

2/02/2010
9:58 AM
IV

P Public

Doc#: 2010-003206

Titles: 1 Pages: 2



Fees 10.00
Taxes 0.00
Other 1.50
PAID \$11.50

NOTICE OF LOCATION LODE MINING CLAIM
Amended for Imperial County - Document No. 2010001647
To correct a typographical error in the Meridian to S.B.B.&M.

Notice is hereby given that the Undersigned, as agent for Lincoln Gold US Corp. hereby locates and claims the following described mineral bearing ground as a lode claim:

This claim shall be known as the QC 34 Lode Mining Claim in the following quarter section(s):

<u>¼</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Meridian</u>
<u>NE</u>	<u>1</u>	<u>15 South</u>	<u>20 East</u>	<u>S.B.B.&M.</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

From this point of discovery (monument of location) 10 feet in a East direction and 1490 feet in a West direction, and 300 feet on each side of the centerline of the claim. The claim is approximately 1500 feet long and 600 feet wide and the general course of the lode or vein is from the East to the West direction. The discovery and corner monuments are 1 ½" x 1 ½" x 4" wood posts.

The SE corner of this claim bears NORTH and 4883 feet and bears East and 3664 feet from the SW Corner of Section 1, Township 15 South, Range 20 East, S.B.B.&M., and is in Mesquite Mining District, Imperial County, California.
Located this 12th day of November, 2009.

Locator: Lincoln Gold US Corp.
325 Tahoe Drive
Carson City, NV 89702

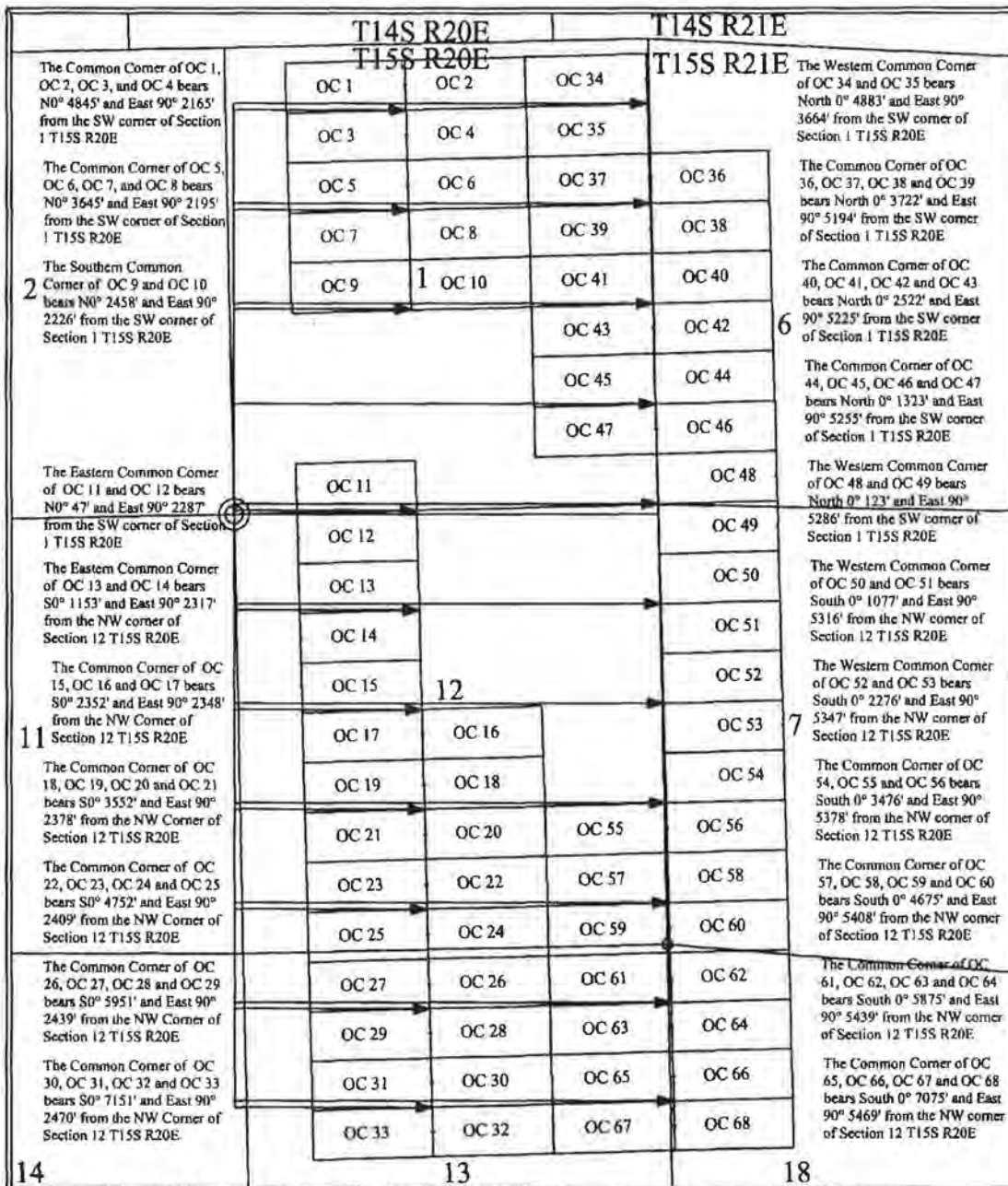
STATEMENT OF THE BOUNDARIES:

Notice is hereby given by locator that in accordance with the requirements of the California Public Resources Code.

1. The above Notice of Location is a true and correct copy of said notice.
2. The locator has defined the boundaries of this claim by erecting at each corner of the claim, or the nearest accessible points thereto, a conspicuous and substantial monument, and each corner monument so erected contains markings sufficient to appropriately designate the corner of the mining claim to which it pertains and the name of the claim. The date of marking is 12/10/2009, and the description of monument are: 1 ½" x 1 ½" x 4" wood monument with scribed metal tag.

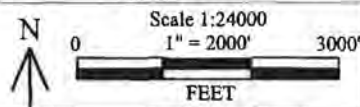
Lincoln Gold US Corp.

By: 
H. H. Tonking, Agent



"OC" lode claims 1-10 & 34-47 were located on November 12, 2009 and
 "OC" lode claims 11-33 & 48-54 were located on November 13, 2009 and
 "OC" lode claims 55-68 were located on November 14, 2009 in
 Sections 1 & 11-14 Township 15 South Range 20 East and in
 Sections 6, 7, & 18 Township 15 South Range 21 East in
 Imperial County, California


Notes:
 Location Monuments are set 10' from claim end lines unless noted otherwise. All location and corner monuments are 2" X 2" X 4" wooden posts with scribed metal tags. All claims are 600' by 1500' unless noted otherwise. All bearings based on UTM North. San Bernardino Base & Meridian.



Location Map for OC 1-68 Lode Claims
Imperial County, California

Lincoln Gold US Corp	OC_Claims_N27_Z11.dwg
325 Tahoe Drive	January 28, 2010
Carson City, NV 89703	Drawn By: G.L.S. Land Services
Surveyed By: T&T Exploration	
Datum: 1927 Projection: UTM Zone 11 Units: Feet	

I hereby certify that this is a true and correct copy of the record filed or recorded in this office if it bears the seal of this office.


Chuck Storey
County Clerk - Recorder
County of Imperial, State of California
Date Issued:



SEP 13 2022

By  Deputy

ATTACHMENT "G" – APPLICATION



IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES DEPARTMENT
Reclamation Plan Application

OWNER, OPERATOR AND AGENT:

1. Applicant (Name, Mailing Address and Telephone Number):

SMP Gold Corp.
912 N. Division Street
Carson City, Nevada 89703
Phone: (604) 682-8592

2. Property Owner (s), or owner of Surface Rights (Name, Mailing Address and Telephone Number): [if different from applicant]

Same as Applicant

3. Owner of Mineral Rights (Name, Mailing Address and Telephone Number): [if different than applicant]

Same as Applicant

5. Lessee (Name, Mailing Address and Telephone Number):

Not applicable

6. Operator (Name, Mailing Address and Telephone Number): [if different than applicant]

Same as Applicant

7. Agent of Process (Name, Mailing Address and Telephone Number):

Patricia Valenzuela, Planner IV
801 Main Street
El Centro, California 92243
Phone: (442) 265-1736

LOCATION:

8. Legal Description: (must be full legal)

Township 15 South, Range 20 East, Sections 1, 2, 12 and 13, and
Township 15 South, Range 21 East, Sections 6, 7 and 18

See attached Figures 1 and 2

Assessor Parcel No.: See attached Table 1.
Longitude: West 144.811888 deg
Latitude: North 32.875392 deg
Elevation: Approximately 500 - 1,100 feet

9. Size of the land(s) that will be affected by mining operation. Total acreage:

20.6 acres
See attached Section 1.5.2

10. Describe existing and proposed access to the mine site: (please be specific)

See attached Section 1.5.3

GEOLOGICAL BACKGROUND:

11. Mineral commodity to be mined:

Exploration for minerals including gold

17. Maximum anticipated annual production (Tons or Cubic Yards):

Not applicable

18. Total anticipated production:

Minerals: Not applicable cubic yards/tons _____

Tailings retained on site: cubic yards/tons _____

Tailings disposed off site: cubic yards/tons _____

Maximum anticipated depth (indicate on map location of benchmarks to verify mine depth):

19. Describe mining method:

Not applicable

See attached Section 1.5.4 for a description of exploration drilling activities

20. Describe nature of processing and explain disposal of tailings or waste.

Not applicable

21. Do you plan to use cyanide or other toxic materials in your operations?

No

Do you plan to use or store petroleum products or other hazardous materials on the site?

Yes

See attached Sections 1.6.2 and 1.8

Describe refueling and maintenance of vehicles.

See attached Section 1.6.2 and 1.8

22. Indicate the quantity of water to be used, source of water, method of conveyance to the mine site, the quantity, quality and method of disposal of used and/or surplus water. Indicate if water well to be used for mine operation (drilling, reactivation, changing use or increasing volume of water well may require Conditional Use Permit approval).

See Section 1.7.1

23. Describe phases of mining if applicable and concurrent reclamation including time schedule for concurrent activities.

Not applicable

24. Describe the types of equipment that will be used in the operation, including the estimated average daily trips (ADT) that will be generated by the operation.

See attached Section 1.5.5

25. Include the following maps: (NOTE: Without these the application is automatically incomplete.)

- (1) Topographic Map with overlay showing proposed area to be mined.
- (2) Site Plan showing mine layout and dimensions.
- (3) General Vicinity Map showing the location of the mine site in Imperial County.
- (4) Cross Section Map.

RECLAMATION:

26. Indicate by overlay of map of Item No. 24, or by color or symbol on map those areas to be covered by the reclamation plan:

Total acreage: 20.6 acres

MAIN OFFICE:	801 Main Street	El Centro, CA 92243	(760) 482-4236	FAX: (760) 353-8338	E-MAIL: planning@imperialcounty.net
ECON. DEV. OFFICE:	836 Main Street	El Centro, CA 92243	(760) 482-4900	FAX: (760) 337-8907	

27. Describe the ultimate physical condition of the site and specify the proposed use (s) or potential uses of the land after reclamation. Explain if utilities, haul or access roads will be removed or reclaimed.

See attached Section 2.1

28. Describe relationship of the interim uses than mining and the ultimate physical condition to:

- (a) Imperial County Zoning Ordinance
- (b) Imperial County General Plan

The Project is entirely on BLM lands, see attached Section 1.2

29. Notarized statement that all owners of the possessory interest in the land have been notified of the proposed uses or potential uses identified in Item No. 25 (see Attachment "A").

The Project is entirely on BLM lands, see attached Section 1.2

SMP has filed a Project Plan of Operations with the BLM, and they have determined that it meets the content requirements at 43 CFR 3809.401(b). Preliminary discussions and planning with BLM have begun to initiate review of the Project under the National Environmental Policy Act

30. Describe soil conditions and proposed topsoil salvage plan.

See attached Section 2 and Appendix A

31. Describe the methods, their sequence and timing, to be used in bringing the reclamation of the land to its end state. Indicate on map (Items Nos. 24 and 25) or on diagrams as necessary. Include discussion of the pertinent items listed below.
- (a) Backfilling and grading
 - (b) Stabilization of slopes
 - (c) Stabilization of permanent waste dumps, tailings, etc.
 - (d) Rehabilitation of pre-mining drainage
 - (e) Removal, disposal or utilization of residual equipment, structure, refuse, etc.
 - (f) Control and disposal of contaminants, especially with regard to surface runoff and ground water
 - (g) Treatment of streambeds and streambanks to control erosion and sedimentation
 - (h) Removal or minimization of residual hazards
 - (i) Resoiling, revegetation with evidence that selected plants can survive given the site's topography, soil and climate:

See Attached Section 2 and associated Figures and Appendices

32. If applicant has selected a short term phasing of his reclamation, describe in detail the specific reclamation to be accomplished during the first phase:

Not applicable

33. Describe how reclamation of this site in this manner may affect future mining at this site and in the surrounding area:

See attached Section 2.1

34. Notarized statement that the person submitting the plan accepts responsibility for reclaiming the mined lands in accordance with the Reclamation Plan (Attachment "B"):

See Attached.

35. Include Reclamation Cost Calculations as Attachment "C":

To be provided at a later date.

36. Describe proposed Revegetation Plan (attach as "Attachment D" if necessary):

See attached Appendix A

ATTACHMENT "A"

STATEMENT OF NOFICATION

I, the undersigned, have notified all owners of the possessory interest in the land of the proposed use (s) or potential uses identified in Item No. 26 of the Reclamation Plan.

Signed this _____ day
of _____, 2005.

Operator or Operator's Agent

MAIN OFFICE: 801 Main Street El Centro, CA 92243 (760) 482-4236 FAX: (760) 353-8338 E-MAIL: planning@imperialcounty.net
ECON. DEV. OFFICE: 836 Main Street El Centro, CA 92243 (760) 482-4900 FAX: (760) 337-8907

ATTACHMENT "B"

STATEMENT OF RESPONSIBILITY

I, the undersigned, hereby agree to accept full responsibility for reclaiming all mined lands as described and submitted herein with any modifications requested by the County of Imperial as conditions of approval.

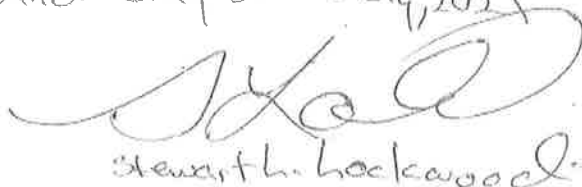
Signed this 2 day

of July, 2021.



Operator or Operator's Agent

Sworn before me this
2nd day of July, 2021



STEWART L. LOCKWOOD
Barrister & Solicitor
BENNETT JONES LLP
2800 PARK PLACE - 608 BARRARD STREET
VANCOUVER, B.C. V6C 2X8
TEL: 604.891.5313 FAX: 604.891.5100

ATTACHMENT "C"
RECLAMATION COST ANALYSIS

Note: Reclamation Cost Analysis will be forthcoming following Imperial County review of Reclamation Plan.

MAIN OFFICE:	801 Main Street	El Centro, CA 92243	(760) 482-4236	FAX: (760) 353-8338	E-MAIL: planning@imperialcounty.net
ECON. DEV. OFFICE:	836 Main Street	El Centro, CA 92243	(760) 482-4900	FAX: (760) 337-8907	

ATTACHMENT "D"
REVEGATION PLAN

(REVISED MARCH 25, 2005)
JH/lh/S:/forms_lists/reclamation plan application

MAIN OFFICE:	801 Main Street	El Centro, CA 92243	(760) 482-4236	FAX: (760) 353-8338	E-MAIL: planning@imperialcounty.net
ECON. DEV. OFFICE:	836 Main Street	El Centro, CA 92243	(760) 482-4900	FAX: (760) 337-8907	

**SMP GOLD CORP.
ORO CRUZ EXPLORATION PROJECT
REVEGETATION PLAN**

Prepared for: SMP GOLD CORP.
Prepared by: WestLand Resources, Inc.
Date: June 11, 2021
Project No.: 2072.03 13

TABLE OF CONTENTS

1. Introduction and Background.....	1
2. Project Area Description	1
3. Reclamation and Revegetation Plan Overview	3
4. Site Preparation	4
5. Control of Weeds & Non-Native Vegetation	5
6. Seed Mix.....	6
7. Success Criteria	7

FIGURES

(follow text)

- Figure 1. Vicinity Map
Figure 2. Project Location
Figure 3. Vegetation Classifications

APPENDICES

- Appendix A. Representative Photographs

I. INTRODUCTION AND BACKGROUND

SMP Gold Corp. (SMP) proposes mineral exploration activities at the Oro Cruz Pit Area (the Project) within lands administered by the Bureau of Land Management (BLM), northwest of Yuma, Arizona, in Imperial County, California. The Project is located on previously mined BLM lands within Township 15 South, Range 20 East, Sections 1, 2, 12, and 13, and Township 15 South, Range 21 East, Sections 6, 7, and 18 (the Project Area, **Figures 1 and 2**) that are managed by the El Centro Field Office. The Project Area includes seven drill areas and access roads (**Figure 2**). Within these areas, the Project entails 20.6 acres of surface disturbance. The Project Area has been previously disturbed by mining activities. Current surrounding land uses include prospecting and recreation.

Activities would be conducted in accordance with BLM regulations published in the Code of Federal Regulations (CFR) at 43 CFR part 3809 (BLM 2016) and 43 CFR 3715 (BLM 1998). Pursuant to 43 CFR 3809.21 and 3809.301, the Project would result in minor surface reworking of previously mined and disturbed areas, and measures would be taken to prevent unnecessary or undue degradation during Project operations. The Project would comply with the performance standards in 43 CFR 3809.420 and other Federal and state laws related to environmental protection and protection of cultural resources; the Project is “reasonably incident” to mining as defined in 43 CFR 3715.0-5; and the Project would attain the stated level of protection and reclamation required by specific laws in the California Desert Conservation Area. The Project Area occurs within the Picacho Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan, and thus requires a BLM Plan of Operations.

The Project is described in the Draft Exploration Plan of Operations (Plan) dated December 17, 2020. The BLM has reviewed the Plan and has determined that the filed Plan meets the content requirements at 43 CFR 3809.401(b).

2. PROJECT AREA DESCRIPTION

Vegetation in the Project Area is low desert scrub typical of the high temperature region of southeastern California. In general, vegetation is sparse in both the upland and xeroriparian habitats. The uplands consist of a very low-density shrub community dominated by creosote (*Larrea tridentata*) and brittlebush (*Encelia farinose*). In addition, large portions of the Project Area consist of disturbed habitats dominated by non-native annual plants. The xeroriparian habitat generally consists of the same sparse shrub community and includes widely spaced upland trees and ocotillo (*Fouquieria splendens*). In summation, vegetation in the Project Area is uniformly sparse and consist of very low density shrublands, upland trees and highly disturbed habitats. Representative photographs of the Project Area are provided in **Appendix A**.

For the purposes of vegetation mapping, an Analysis Area that encompasses the proposed disturbance on seven drill areas and associated access roads was defined (**Figure 3**). A total of 37 plant species were identified during field surveys within the Analysis Area (**Table 1**). Plant species observations do not represent a complete floristic survey. Three California Native Plant Society vegetation categories were identified during pedestrian surveys and thematically mapped using the Supervised Classification tool in ArcGIS Pro 2.7 (**Figure 3**).

Brassica (nigra) and other mustards semi-natural stands

Brassica (nigra) and other mustards semi-natural stands vegetation category occupies approximately 18% of the Analysis Area and 24% of the Project Area (**Figure 3**). This vegetation category corresponds with disturbed and barren areas. Although the named dominant species, black mustard (*Brassica nigra*), was not observed, Saharan mustard (*Brassica tourneforti*), a closely related non-native mustard was often present in both naturally disturbed areas including wash scour and human-disturbed areas such as roads, camp sites, and rock waste piles. This natural community is not classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020)

Parkinsonia florida—Olneya tesota alliance

Parkinsonia florida—Olneya tesota alliance occupies approximately 2% of the Analysis Area and 2% of the Project Area (**Figure 3**). The vegetation category is primarily restricted to xeroriparian areas including washes, drainages and narrow canyons. Besides the named alliance's dominant plants, blue palo verde (*Parkinsonia florida*) and ironwood (*Olneya tesota*), other commonly occurring plants include sweetbush (*Bebbia juncea*), lance leaved ditaxis (*Ditaxis lanceolata*), desert lavender (*Hyptis emoryi*), ocotillo (*Fouquieria splendens*) and Anderson's desert thorn (*Lycium andersonii*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Larrea tridentata — Encelia farinosa alliance

Larrea tridentata — Encelia farinosa alliance occupies approximately 79% of the Analysis Area and 74% of the Project Area and occurs in a variety of topographic settings (**Figure 3**). Besides the named alliance's dominant plants, creosote (*Larrea tridentata*) and brittlebush (*Encelia farinosa*), other commonly occurring plants include ocotillo, beavertail prickly pear (*Opuntia basilaris*), and burrobrush (*Ambrosia dumosa*). This natural community is classified as sensitive by the California Department of Fish and Wildlife (CDFW 2020).

Table 1. Plant Species Observed in the Analysis Area During the Field Survey

This list represents species observed during the field survey and does not represent a complete floristic survey.

Common Name	Scientific Name	Common Name	Scientific Name
PLANTS			
PERENNIALS			
burrobush	<i>Ambrosia dumosa</i>	beavertail pricklypear	<i>Opuntia basilaris</i>
burrobush	<i>Ambrosia salsola</i>	blue paloverde	<i>Parkinsonia florida</i>
western milkweed	<i>Asclepias albicans</i>	Schott's pygmycedar	<i>Peucephyllum schottii</i>
sweetbush	<i>Bebbia juncea</i>	velvet turtleback	<i>Psathyrotes ramosissima</i>
Paloverde	<i>Cercidium floridum</i>	desert globemallow	<i>Sphaeralcea ambigua</i>
pink fairyduster	<i>Cylindropuntia erophylla</i>	Mesquite	<i>Prosopis juliflora</i>
hairy prairie clover	<i>Dalea mollis</i>	Tamarisk*	<i>Tamarix pentandra</i>
narrowleaf silverbush	<i>Ditaxis lanceolata</i>	American threefold	<i>Trixcis californica</i>
Inciensio	<i>Encelia farinose</i>	ANNUALS	
rough jointfir	<i>Ephedra aspera</i>	sixweeks threecawn	<i>Aristida adscensionis</i>
desert trumpet	<i>Eriogonum inflatum</i>	Asian mustard*	<i>Brassica tournefortii</i>
California fagonbush	<i>Fagonia laevis</i>	brittle spineflower	<i>Chorizanthe brevicornu</i>
California barrel cactus	<i>Ferocactus cylindraceus</i>	devil's spineflower	<i>Chorizanthe rigida</i>
ocotillo	<i>Fouquieria splendens</i>	pygmy poppy	<i>Eschscholzia minutiflora</i>
paleface	<i>Hibiscus denudatus</i>	Arizona lupine	<i>Lupinus arizonicus</i>
desert lavender	<i>Hyptis emoryi</i>	Mojave desertstar	<i>Monoptilon bellioides</i>
creosote	<i>Larrea tridentata</i>	desert palafox	<i>Palafoxia arida var. arida</i>
water jacket	<i>Lycium andersonii</i>	clefthead phacelia	<i>Phacelia crenulata</i>
Parry's false prairie-clover	<i>Marina parryi</i>	desert Indianwheat	<i>Plantago ovata</i>
desert wishbone-bush	<i>Mirabilis laevis</i>	yellowdome	<i>Trichoptilium incisum</i>
desert tobacco	<i>Nicotiana obtusifolia</i>		
ironwood	<i>Olneya tesota</i>		
		*non-native	

3. RECLAMATION AND REVEGETATION PLAN OVERVIEW

The intent of the California Surface Mining and Reclamation Act (SMARA) is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of aggregates are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated" (Section 2712). Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article. The standards shall apply to each surface mining operation to the extent that:

- They are consistent with required mitigation identified in conformance with CEQA; and
- They are consistent with the planned or actual subsequent use or uses of the site."

The Oro Cruz Exploration Project Reclamation Plan prepared by Sespe Consulting Inc. (2021) describes the Reclamation Plan for reclaiming land disturbed by exploration drilling within the Project Area, as required under SMARA. This Reclamation Plan addresses the reclamation activities that will be undertaken following completion of the exploratory drilling, in conformance with SMARA.

The anticipated post-Project land uses are mining, recreational uses, and open space. Following the completion of all drilling, solids, and desiccated drilling muds that have been contained in the sump would be treated by evaporation and by allowing solids to settle out in excavated mud pits or sumps at the drill site. The sumps would then be backfilled. The drilling muds that would be used do not contain toxic or deleterious materials. The proposed drilling mud material data sheets could be provided to BLM upon request. The inert drilling mud materials would be disposed of in accordance with applicable state and federal regulations. The drill site, mud pits, and outer berm would then be returned to natural grade with a track hoe using rocks and soil set aside during site construction and mud pit excavation.

This technical memorandum describes the revegetation plan associated with the planned reclamation.

Reclaimed areas would be revegetated with a BLM-approved seed mix. These areas would be revegetated after cover placement and at the appropriate time of the year for optimum seed germination and plant growth.

4. SITE PREPARATION

The revegetation plan is based on those portions of the Project Area proposed to be reclaimed to open space. For those portions of the Project Area to be reclaimed for future mining and/or recreational uses, revegetation may not be feasible and/or appropriate.

Following completion of exploratory drilling, equipment demobilization and surface preparation of the roads and drill pads, the following typical sequence of revegetation activities will be undertaken:

- Installation of erosion control devices, such as waddles, where necessary;
- Application of seed mix either by hydroseeding or mechanical broadcasting; and
- Maintenance and monitoring.

Generally, initial seedbed preparation on flatter surfaces would include ripping or discing the surface along contours. Conventional seeding techniques (including drill and broadcast) would be used as appropriate depending on soil/cover characteristics and landform. Hydroseed, hydromulch, and

tackifier may be used on slopes that are not suitable for conventional seeding. Mulch may be applied to minimize erosion and promote moisture retention where appropriate.

Prior to application of the seed mix, the final contours, hydrology, and soils composition of the revegetation areas will be reviewed by a qualified biologist/revegetation specialist to determine the optimal broadcast rates and make any appropriate modifications to the overall revegetation plan.

Areas to be revegetated will be prepared as follows:

- Vegetation, trash, debris, and weeds will be cleared. All weeds will be removed from the area and properly disposed of offsite.
- Any eroded areas will be repaired uniformly without leaving holes or depressions that would potentially prohibit plant growth.
- Compacted areas will be ripped to a depth of one foot and left in a textured or rough condition with shallow rills and furrows to create optimal conditions for revegetation.
- Any salvaged plants will be replanted on the pads and roads in a random pattern.
- A native plant seed mix will be broadcast at a rate recommended by the BLM and Imperial County which will include a mixture of shrubs, native grasses, and annuals; and
- The seeds will be covered by hand-rake or using a chain attached to a small tractor with any salvaged top soil to protect the seeds from desiccation and predation.

5. CONTROL OF WEEDS AND NON-NATIVE VEGETATION

The predominance of exotic, invasive weed species throughout California has presented a formidable challenge to most revegetation projects. Weed species are opportunistic and have mechanisms for dispersal and establishment that can eventually lead to displacement of native species. To ensure that weed species competition is controlled, the Project site areas will be inspected by the qualified biologist/revegetation specialist prior to revegetation implementation. The qualified biologist/revegetation specialist will also determine the most effective treatments for control of invasive species. If weed control activities are necessary, they will likely include a combination of treatments such as herbicide application, hand removal, and soil solarization.

Non-native invasive plants that threaten California's wildlands have been categorized by the California Invasive Plant Council (Cal-IPC). Invasive plants that have been classified by Cal-IPC as "High" (severe ecological impacts on physical processes, plant and animal communities, and vegetation structure) or "Moderate" (substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure) in terms of ecological threat will be controlled as necessary within the revegetation areas for up to three (3) years in order to prevent aggressive weeds from out-competing native plant species for resources (e.g., space, water, nutrients, and light). These invasive weeds will be removed mechanically, if feasible. In circumstances

where mechanical control is not effective, EPA-approved systemic herbicides may be used. Herbicides will be applied under the direction of a licensed applicator.

Prior to initiation of revegetation efforts, the biologist will consult the most recent Cal-IPC list, and a list of specific species to be controlled under this Reclamation Plan will be developed. Additional species may be added to the list based on actual conditions and the recommendation of the qualified biologist/revegetation specialist.

6. SEED MIX

Revegetation would require site-appropriate, BLM-approved native seed mixtures. A diverse native plant community would be targeted through the definition of seed mixtures and application rates. The seed mix list would be reviewed before revegetation activities are initiated to confirm the availability of the seeds, and the list would be adjusted as needed. The seed mix and mulch materials would be certified by the revegetation contractor to be relatively weed free.

The proposed native seed mixture will consist of the following: creosotebush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), desert spineflower (*Geraea canescens*), turtleback (*Psathyrotes ramosissima*), forget-me-not (*Cryptantha* spp.), and hairy prairie clover (*Dalea mollis*). Seeds will be purchased and mixed in equal quantities and will be hand broadcasted at approximately 10 pounds per acre (Table 2). If any part of the proposed seed mixture is not commercially available at the time of purchase, BLM will be consulted to identify appropriate and available replacements for the seed mixture.

Table 2. Native Live Seed Mixture

Common Name	Scientific Name	Pounds/Acre
creosotebush	<i>Larrea tridentata</i>	3
burrobush	<i>Ambrosia dumosa</i>	3
brittlebush	<i>Encelia farinosa</i>	1.5
desert spineflower	<i>Geraea canescens</i>	1
turtleback	<i>Psathyrotes ramosissima</i>	0.5
forget-me-not	<i>Cryptantha</i> spp.	0.5
hairy prairie clover	<i>Dalea mollis</i>	0.5
	Total	10

The seed mix would be designed to meet the following criteria:

- Native non-invasive species that have a high compatibility with the existing landscape;
- Species and plant type diversity to promote a sustainable vegetative cover throughout the seasonal changes and other climate related variances; and
- Species and plant type diversity to promote a variety of germination periods and seasonal growth.

7. SUCCESS CRITERIA

The basic goal of revegetation is to re-establish self-sustaining native plant communities within the disturbed areas. California Code of Regulations (CCR) Section 3705(m) requires that reclaimed revegetated sites be "similar to naturally occurring habitats in the surrounding area." In order to accomplish this revegetation will be deemed successful upon achieving 25 percent of the vegetative cover of adjacent similar vegetation. Because the specific locations of drill pads are not known at this time and flexibility is built into the project to allow for adaptation of exact locations based on drilling results, comparison sites will be chosen in field once the exact drill pad locations are identified. This is an appropriate success criterium for the following reasons:

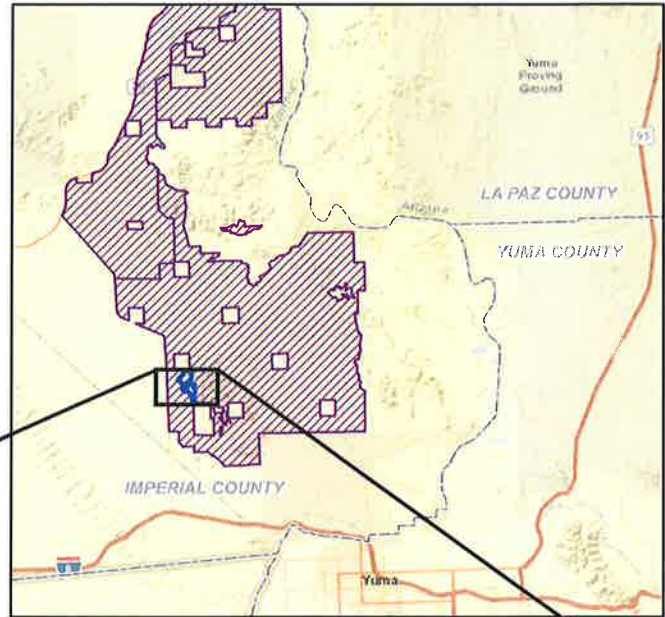
- The Project will entail only a small amount of total disturbance, and much of this will be within areas that have been previously disturbed.
- The Project contemplates temporary activities over a relatively short time period.
- The Project Area has been previously disturbed from past mining activities, and there is a striking lack of vegetation throughout the Project Area. Vegetation in both the uplands and washes is sparse with limited vegetation cover (**Appendix A**).
- The planned revegetation effort is planned to enhance the success of the revegetation and will augment the reseeding that will occur naturally.

FIGURES

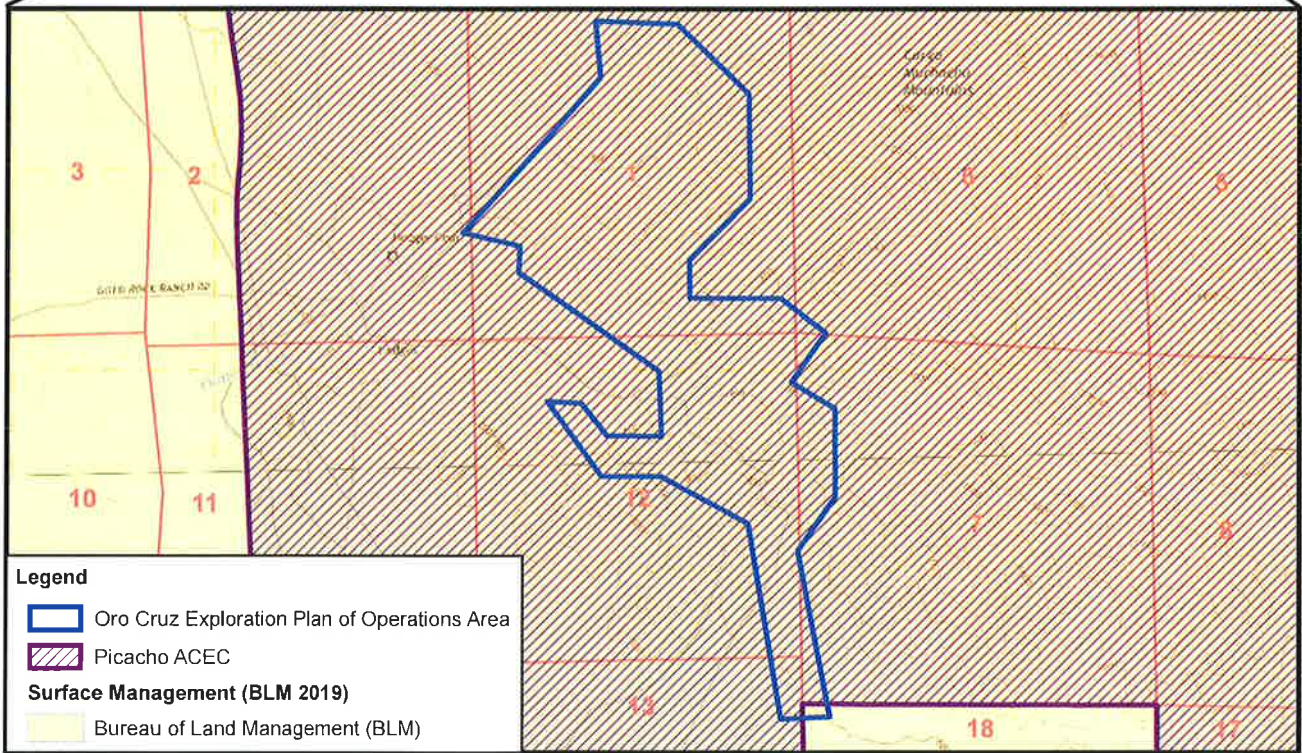
CALIFORNIA



PROJECT VICINITY



Approximate Scale 1 Inch = 12 Miles



Legend

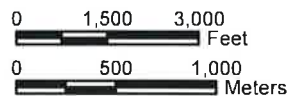
-  Oro Cruz Exploration Plan of Operations Area
-  Picacho ACEC
- Surface Management (BLM 2019)**
-  Bureau of Land Management (BLM)

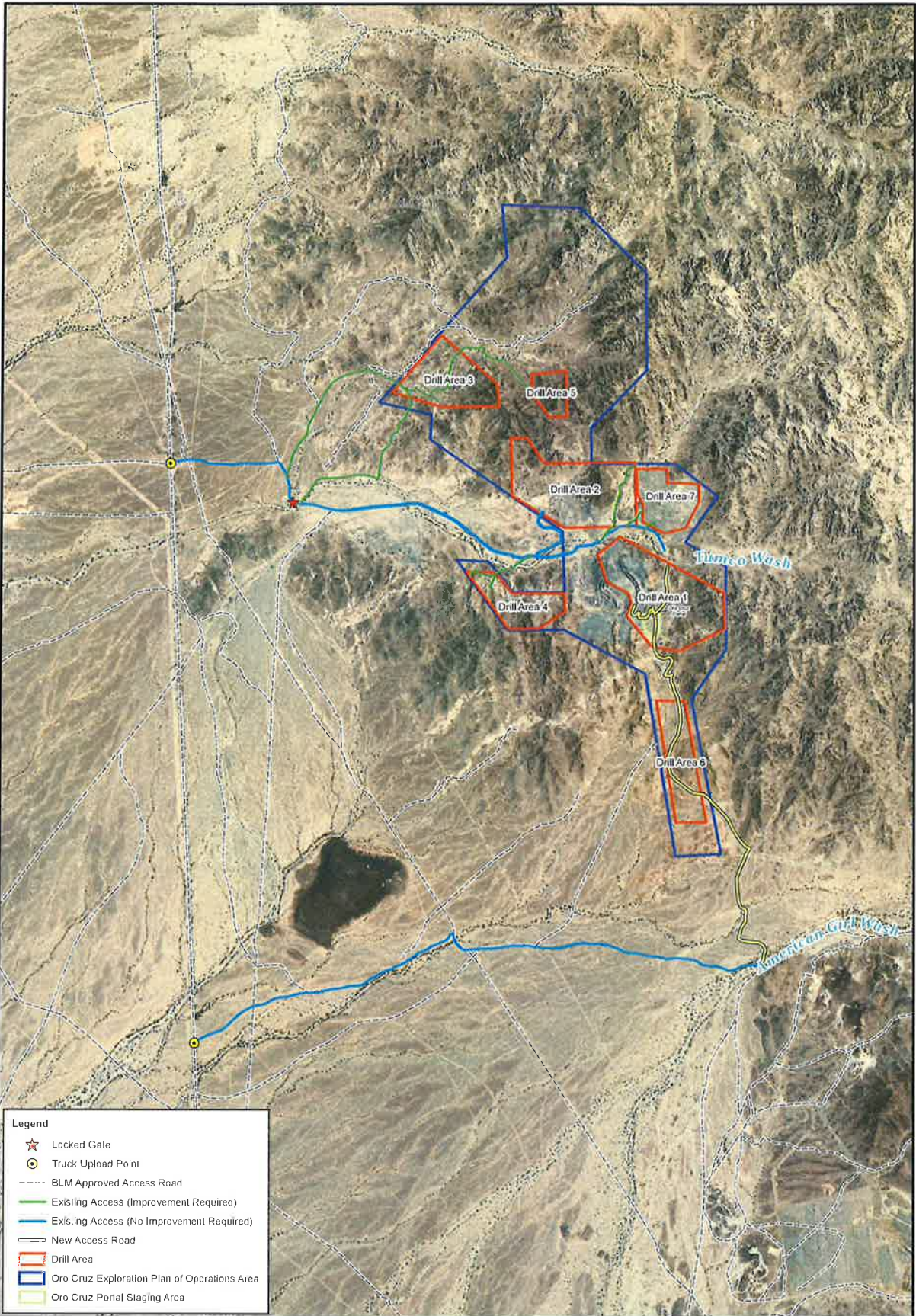
T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Ogilby and Hedges USGS 7.5' Quadrangles (2018)
 Data Source: SMP
 Image Source: ArcGIS Online, World Street Map

SMP GOLD CORP.
Oro Cruz Exploration Project
Revegetation Plan

VICINITY MAP

Figure 1



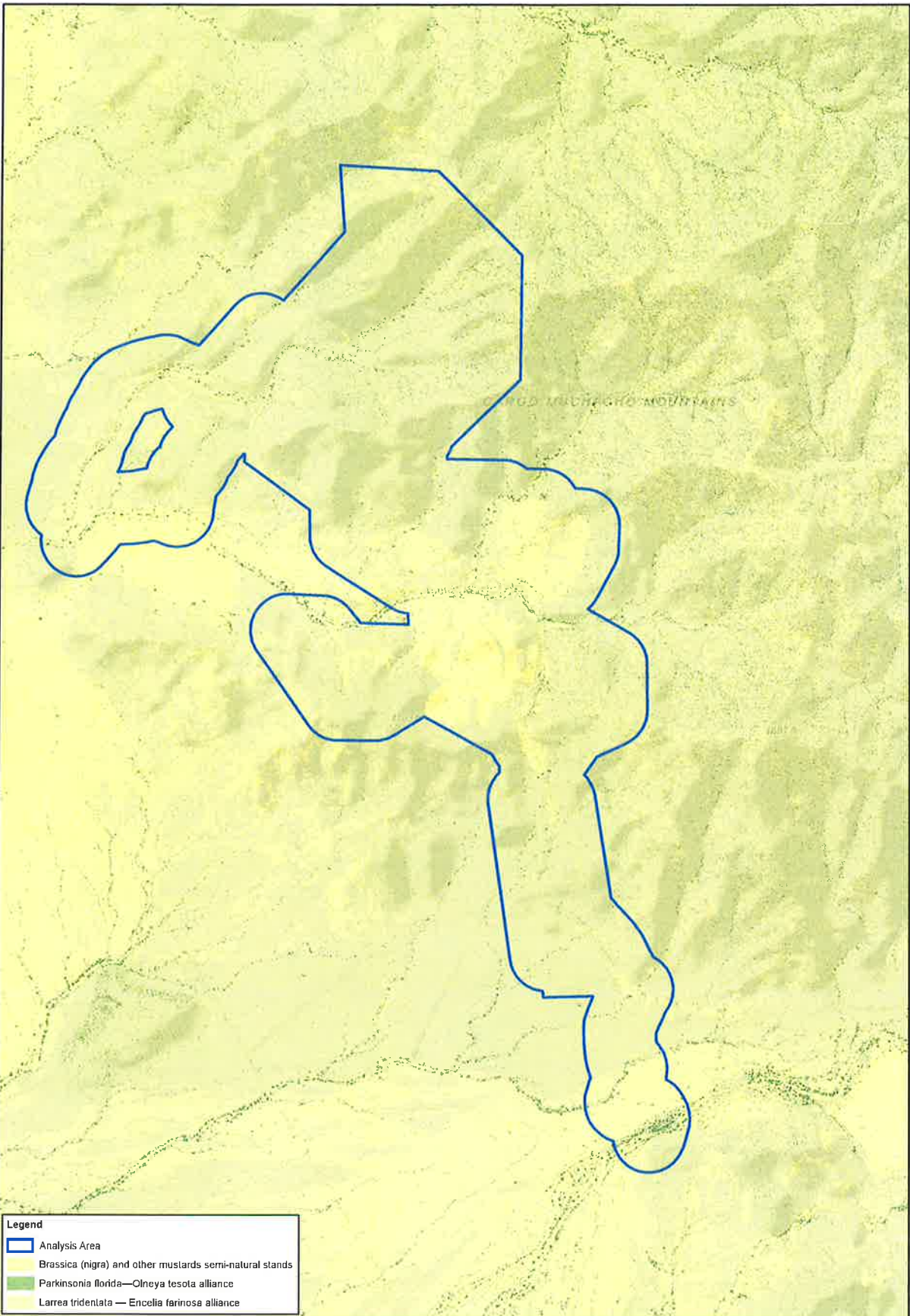


T15S, R20E, Portions of Sections 1, 2, 12 and 13,
 T15S, R21E, Portions of Sections 5, 7, and 18
 Imperial County, California, Data Source: SMP
 Image Source: ArcGIS Online, World Imagery, 2018



SMP GOLD CORP.
 Oro Cruz Exploration Project
 Revegetation Plan

PROJECT LOCATION
 Figure 2



Legend

- Analysis Area
- Brassica (nigra) and other mustards semi-natural stands
- Parkinsonia florida—Olneya tesota alliance
- Larrea tridentata — Encelia farinosa alliance

T15S, R20E, Portions of Sections 1, 2, 11, 12 and 13,
 T15S, R21E, Portions of Sections 6, 7, and 18
 Imperial County, California,
 Imperial County, California,
 Data Source: SMP
 Image Source: Supervised Classification from NAIP 2020



SMP GOLD CORP.
 Oro Cruz Exploration Project
 Revegetation Plan
 VEGETATION CLASSIFICATION
 Figure 3

APPENDIX A
Representative
Photographs



Photo 1.
Drill Area 1



Photo 2.
Drill Area 1



Photo 3.
Drill Area 2



Photo 4.
Drill Area 2



Photo 5.
Drill Area 3



Photo 6.
Drill Area 3



Photo 7.
Drill Area 4



Photo 8.
Drill Area 4



Photo 9.
Drill Area 5



Photo 10.
Drill Area 5



Photo 11.
Drill Area 6



Photo 12.
Drill Area 6



Photo 13.
Access Road to Drill Area 6



Photo 14.
Drill Area 7



Photo 15.
Drill Area 7