

4.11 MINERAL RESOURCES

4.11.1 Regulatory Setting

Surface Mining and Reclamation Act of 1975

In 1975, the Surface Mining and Reclamation Act (SMARA) was passed by the California Legislature to both address the need for continued mineral supplies as well as mitigate or prevent negative impacts to public health, property, and the environment that could result from mining activities. Regulations within SMARA are jointly administered by the Department of Conservation's Office of Mine Reclamation (OMR) and the State Mining and Geology Board (SMGB). Along with acting as the appeals board, the SMGB serves to distribute and clarify information regarding provisions within the Act. To complement these services, the OMR provides technical assistance for lead agencies and operators, maintains a database of mine locations and operational information statewide, and is responsible for matters related to compliance.

To better enforce provisions in the Act, SMARA directs the State Geologist to classify (identify and map) the nonfuel mineral resources of the State to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Mineral land classification is the principal responsibility of the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). Although no SMARA maps are currently available for the County of Imperial, study of the region by the State Geologist could result in findings that classify potentially significant mineral deposits and identification of restrictions aimed at curbing development of those areas.

The County Planning/Building Department as lead agency has the responsibility under SMARA, as amended, and State Policy for Surface Mining and Reclamation Practice, to regulate surface mining and reclamation within its jurisdiction including the reclamation of federal lands to assure that:

1. Adverse environmental effects are prevented or minimized and mined lands are reclaimed to a usable condition which is readily adopted for alternative land use.
2. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
3. Residual hazards to the public health and safety are eliminated (Public Resources Code, Section 2712).

Under the Surface Mining and Reclamation Act of 1975, with specified exceptions, a person is prohibited from conducting surface mining operations without obtaining a permit from, and submitting a reclamation plan to and receiving approval by, the lead agency for the surface mining operation. A person who obtained a vested right to conduct surface mining operations prior to January 1, 1976, is not required to obtain a permit but is required to submit a reclamation plan to the lead agency. The State Mining and Geology Board is required to review lead agency ordinances which establish permit and reclamation procedures.

In order to comply with SMARA, the County enacted Chapter 4.5, Surface Mining Operations into the Imperial County Ordinance (Sections 83450-83463). In addition, "Policies and Standards for Development and Reclamation of Natural Resource Areas" were adopted by the Board of Supervisors on September 25, 1979.

Assembly Bill (AB) 747 also clarified the definition of “lead agency” by specifying that cities and counties, and certain State agencies with land use regulatory authority, are lead agencies under SMARA. Pursuant to this, the County Board of Supervisors and the Bureau of Land Management (BLM), El Centro Resource Area have prepared and signed a Memorandum of Understanding (MOU) effective August 12, 1988. The MOU is an agreement to have the County process reclamation plans for mining operations located on federal lands for the BLM in order to avoid duplication efforts. The County and BLM have developed an effective and efficient permit system that meets the regulatory requirements without seriously disrupting development and operation of such projects.

In November 1989, the State Office of Mines and Geology conducted a statewide survey to ascertain compliance with the requirements of SMARA. At that time it was found that lead agencies were substantially in noncompliance. Of 116 mines analyzed only 11 percent were verified as being in compliance; and of the total reclaimed, 30 percent of the sites were determined to be unreclaimed or not reclaimed to SMARA standards. Additionally, the Bureau of Mines and Geology also determined that only a few agencies carried out site inspections and less than 50 percent of the lead agencies had notified the mining operations that were out of compliance.

As a result of the above survey, the Division of Mines and Geology informed the lead agencies that unless substantial compliance is immediate, it is their intent to preempt the SMARA program to the State Mines and Geology Board. A piece of legislation, AB 3551, imposes substantially new and much more complex regulations on surface mining operations.

From the onset, Imperial County has pursued implementation and compliance with SMARA. Imperial was one of the few counties found to be substantially in compliance with state requirements. Should SMARA be taken away from the local jurisdiction's control, compliance will become much more time-consuming, with review and approvals required at the State level. Additionally, the process would become more costly with substantially higher review fees and severe penalties for tardiness or noncompliance. In addition, local concerns and issues become unclear; and statewide mandates become a burden to the local operations.

California Desert Conservation Area Plan

In 1976, the Federal Land Management and Policy Act (FLPMA) was passed to evaluate management strategies for the approximately 300 million acres of public lands that existed at the time. Under Section 601 of the FLPMA, Congress determined that the California Desert Conservation Area (CDCA) was of unique importance, stating “[t]he Congress finds that the California Desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population...” (BLM 2006). As such, Congress instructed BLM to prepare and implement a long-range plan for the management, use, development, and protection of public lands contained within the CDCA.

Of the 2,942,080 acres of land that constitute the County of Imperial, approximately 1.3 million acres are public lands administered by BLM. According to information distributed by BLM, all of the public lands within the County are included in the CDCA (BLM 2006). Consequently, the CDCA Plan has far-reaching implications with regard to the regulation of mineral resources throughout the County. Under the plan, BLM has drafted multiple-use class provisions to serve as guidelines for mineral exploration and development. The regulations include three levels of operations:

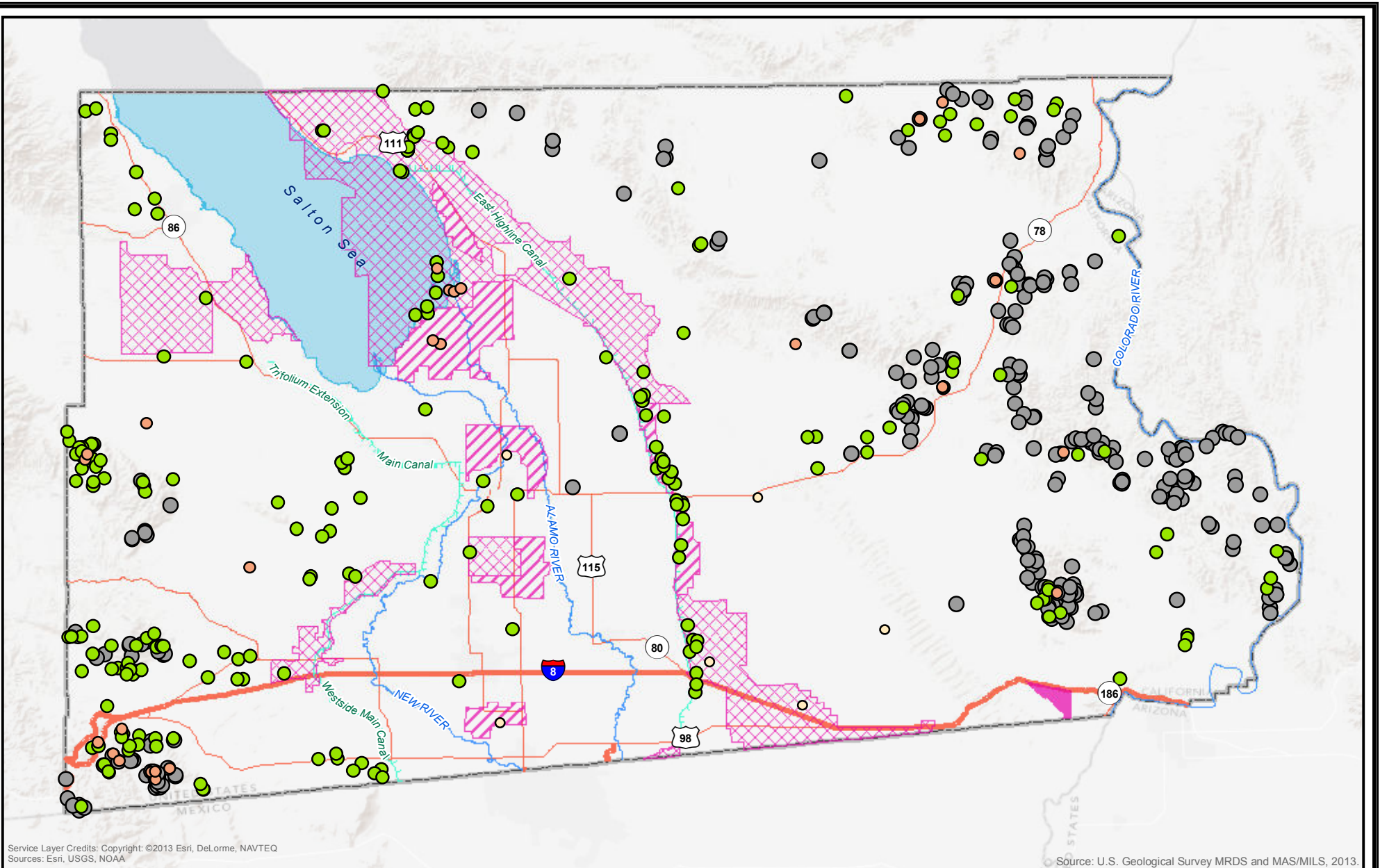
- Causal Use – No Notice or Plan Required: Designed for part-time miners or weekend prospectors who cause only negligible disturbance
- Surface Disturbance of Less than 5 Acres – Notice Required: Designed for operators who propose to conduct exploration or mining activities which cause surface disturbance of 5 acres or less per year (except on special-category lands)
- Disturbance of More than 5 Acres Due to Mining in Special Areas – Plan of Operations Required: Designed for large-scale operations or if the operations will be conducted on lands with special category designations such as CDCA areas multiple-use class C (controlled use) or multiple-use class L (limited use)

At each of the three levels, unnecessary or undue degradation resulting from mineral exploration must be prevented, and mineral reclamation must be completed. While the CDCA Plan outlines goals for energy production and utility corridors, its overarching policies regulating Leasable Minerals, including oil, gas, and geothermal resources, has the potential to inhibit or prevent the development of certain alternative energy facilities.

4.11.2 Existing Environmental Setting

Imperial County has a number of mineral resources that are currently being extracted for economic gain. These mineral resources include gold, gypsum, sand, gravel, lime, clay, and stone. Industrial materials are also readily available, including kyanite, limestone, sericite, mica, tuff, salt, potash, calcium chloride, and manganese. Several issues influence the extraction of mineral deposits in Imperial County and include the areas of geologic deposition, impacts to the environment, and land use conflicts. As a result, the extraction of mineral resources is limited to a relatively small number of sites throughout the County. Figure 4.11-1 depicts the distribution and location of mineral resources and mining sites in Imperial County. As demonstrated in Figure 4.11-1, extraction activities for metallic minerals are concentrated along the eastern perimeter of the County. Mining activities for nonmetallic minerals are more evenly distributed across the County, with specific concentrations found near the center of the County following East Highline Canal as well as along the western County line.

Past mining activities have introduced such factors as degraded air quality, noise pollution, accentuated geologic hazards, surface and groundwater pollution; jeopardized public safety; undermined cultural resources; and impacted wildlife and plant species. Given these potential environmental impacts and conflicts with adjacent land uses, mineral resource extraction activities continue to draw scrutiny from both the public and private sectors. Balancing the need for mineral resources alongside the public interest and well-being is an important aim of the current regional land use strategy. Table 4.11-1 provides the amount of these mineral resources located within the County of Imperial.



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Sources: Esri, USGS, NOAA

© Source: U.S. Geological Survey MRDS and MAS/MILS, 2013.

Legend

Commodity Type

- Unknown
- Both Metallic and Non-metallic
- Non-metallic
- Metallic

Preferred Alternative

- ▨ Geothermal
- Renewable Energy
- ▩ Renewable Energy/Geothermal

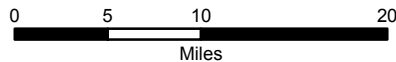


Figure 4.11-1
Imperial County Renewable Energy and
Transmission Element Update PEIR
Existing Mineral Resources

Table 4.11-1: Mineral Resources in Imperial County

Mineral Resource	Number of past producing sites	Number of current producing sites	Number of prospecting sites	Number of Processing Plants	Unknown Status	Number of Documented Occurrences
Metallic	53	17	46	7	52	141
Metallic and Nonmetallic	14	None	None	1	2	10
Nonmetallic	57	66	10	None	15	82

Source: USGS 2013.

The United States Geological Survey (USGS) has identified nine Known Geothermal Resource Areas (KGRAs) in Imperial County. A KGRA is defined as:

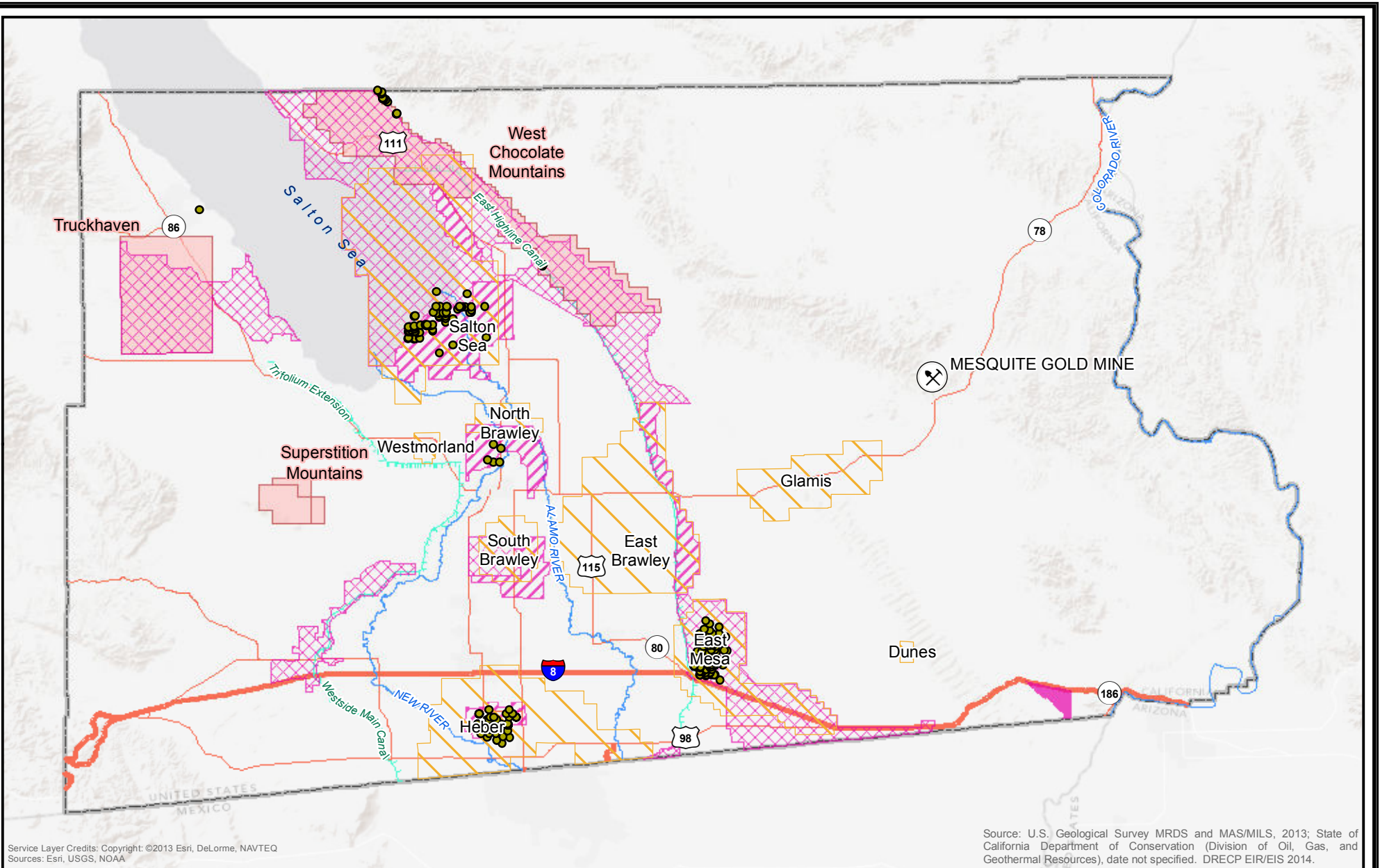
“...An area in which the geology, nearby discoveries, competitive interests, or other indicia would, in the opinion of the Secretary of the Interior, engender a belief in those who are experienced in the subject matter that the prospects for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures of money for that purpose...” (30 U.S.C. 1001)

The nine KGRAs are located throughout the County and vary in temperature, pressure, and chemical composition of brine solutions found in each area (ICPDS 2006) and constitute approximately 326,938 acres (11 percent) of total land area of the County of Imperial (Table 4.11-2). Four of the nine KGRAs are located within Imperial County designated Geothermal Overlay Zones that have been identified in approved Master Environmental Impact Reports (MEIRs). These areas would provide opportunities for geothermal energy generation. Figure 4.11-2 shows the locations of the existing KGRAs, the Truckhaven Geothermal Leasing Area, and West Chocolate Mountains Renewable Energy Evaluation Area. Figure 4.11-2 also shows the locations of active geothermal wells and the New Gold Mine.

Table 4.11-2: Geothermal Resource Area Acreages in Imperial County

Known Geothermal Resource Area*	Area (acres)	Percentage of Imperial County
Salton Sea	103,221.51	3.51%
East Brawley	70,548.85	2.40%
Glamis	25,985.76	0.88%
East Mesa	37,802.91	1.28%
Dunes	7,723.11	0.26%
South Brawley	12,782.22	0.43%
Heber	59,319.26	2.02%
Westmorland	2,534.01	0.09%
North Brawley	7,020.26	0.24%
Total	319,917.63	11.11%

Source: Geo-Heat Center, Oregon Institute of Technology



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Sources: Esri, USGS, NOAA

Source: U.S. Geological Survey MRDS and MAS/MILS, 2013; State of California Department of Conservation (Division of Oil, Gas, and Geothermal Resources), date not specified. DRECP EIR/EIS 2014.

Legend

- High Priority Operations
- Active Geothermal Wells
- Prospectively Valuable KGRA
- Geothermal Lease
- Preferred Alternative**
- Geothermal
- Renewable Energy
- Renewable Energy/Geothermal

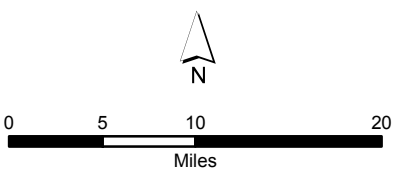


Figure 4.11-2
Imperial County Renewable Energy and
Transmission Element Update PEIR
Geothermal Resources and
High Priority Operations

4.11.3 Significance Criteria

The thresholds for significance of impacts for the analysis are based on the environmental checklist in Appendix G of the State California Environmental Quality Act Guidelines. Consistent with the CEQA Guidelines and the professional judgment of the County's staff and environmental consultants, the proposed Project would result in a significant impact on the environment if it would:

- 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
- 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

4.11.4 Impacts and Mitigation

MR-1:R result in the loss of availability of a known mineral resource or locally important mineral resource recovery site that would be of value to the region and the residents of the State

Construction and Operation

Development of future renewable energy facilities under the proposed Project would have the potential to restrict existing mineral resources from being extracted. Similarly, future renewable energy facilities could also conflict with delineated locally important mineral resource recovery sites. The proposed Project would be implemented on a "project-by-project" basis based on County approval of individual renewable energy projects. Because the proposed Project only identifies general locations suitable for renewable energy facilities and does not contain specific development proposals, potential impacts to existing mineral resources and delineated locally important mineral resource recovery sites cannot be accurately determined at this stage of the planning process. Consequently, it is not possible to quantitatively analyze the level of impacts on mineral resources that would occur under the proposed Project. Nonetheless, future development of renewable energy facilities in the proposed overlay zones could potentially impact mineral resources and result in a significant impact.

Mitigation Measures

The following mitigation measures were developed based on review of the DRECP EIR/EIS.

MR-1a: Project proponents of future renewable energy facilities shall identify potential impacts on mineral development activities and ways to minimize any potentially significant impacts during early phases of project planning. Impact assessments on mineral resources shall include, but are not limited to, the following actions:

- Identify active mining claims or mineral development activities and potential for mineral development in proximity to a proposed renewable energy facility. In coordination with County staff, developers shall consult existing land use plans and updated inventories.
- Evaluate impacts on mineral development as part of the environmental impact analysis for the proposed renewable energy facility and consider options to avoid, minimize, and mitigate significant impacts.

MR-1b: Where valid mining claims or leases already exist, proponents of future renewable energy facilities shall engage in early coordination with claim or lease holders to determine the possibility of locating new facilities in or near these areas to avoid adverse effects on mineral development.

Significance After Mitigation

Implementation of mitigation measures MR-1a and MR-1b would reduce impacts to a level less than significant.

4.11.5 Cumulative Impacts

Similar to the proposed Project, future development associated with approved, proposed, and reasonably foreseeable projects within Imperial County would have the potential to impact mineral resources; however, future development associated with approved, proposed, and reasonably foreseeable projects would be subject to mitigation measures similar to the measures developed for the proposed Project. Implementation of mitigation measures MR-1a and MR-1b would reduce impacts associated with the proposed Project to a level less than significant, and cumulative impacts would be less than significant.