SECTION 4.1: AIR QUALITY

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SECTION 4.1: AIR QUALITY

This section of the subsequent environmental impact report (SEIR) documents potential project impacts associated with air quality and air pollutant emissions. Impacts considered in this section include the potential for project air emissions to exceed established thresholds or to cause or contribute to exceedance of state or federal ambient air quality standards. The section also considers human health risks associated with air pollutant emissions resulting from the project and the potential for public nuisance as a result of project odors.

The information in this section is based primarily on the *Air Quality Modeling Analysis US Gypsum Company—Southwest Plant* Trinity Consultants 1999) (Appendix C-1, "Air Quality Modeling Analysis"), the updated air emissions estimates and associated analysis provided in the 2019 SEIS Appendix C-2, "SEIS Air emissions Estimates"), new air emissions estimates for the Viking Ranch Restoration Site Appendix C-3, "Estimated Air Quality Emissions—Viking Ranch"), and other publicly available sources related to air quality.

4.1.1 Environmental Setting

This section discusses the existing air quality conditions in the project area including relevant environmental factors such as climate and topography, descriptions of pertinent air pollutants and associated attainment statuses, and local air quality monitoring data.

4.1.1.1 Regional Setting

Imperial County is in the southeastern corner of California with the relatively flat Imperial Valley and the southern Salton Sea in the center surrounded by multiple mountain ranges to the east and west. State and federal air quality regulations have designated this region as the Salton Sea Air Basin (SSAB). The Imperial County portion of the SSAB is under the jurisdiction of the Imperial County Air Pollution Control District (ICAPCD). The SSAB encompasses the entirety of Imperial County and the southeast portion of Riverside County and is generally an arid desert region, with a significant land area located below sea level. The hot and dry conditions experienced in the region are a result of a large, semi-permanent high-pressure area that dominates the Imperial Valley and the presence of the coastal mountains to the west. The high pressure blocks most storms, except during the winter when the pressure is the weakest and tends to shift to the south. The coastal mountains tend to block moist air from entering the valley resulting in hot temperatures during the summer and dry weather year-round.

The Salton Sea Air Basin contains relatively few major emissions sources, but may experience emissions transported from Mexicali, Mexico and from significant vehicular traffic, particularly near the two international ports of entry: Calexico West and Calexico East. Emissions sources within the Salton Sea Air Basin consist of geothermal power generation, food processing, plaster and wallboard (gypsum) manufacturing, and other light industrial facilities. Additionally, the continuing fall in the water surface elevation of the Salton Sea is expected over time to generate fugitive dust originating from newly exposed sediments originally deposited underwater from agricultural runoff in the Salton Sea.

4.1.1.2 Pollutants and Health Effects

Air pollution contributes to a wide variety of adverse health effects. The United States Environmental Protection Agency (USEPA) has established national ambient air quality standards (NAAQS) for six of the

most common air pollutants—carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as "criteria" air pollutants. The California Air Resources Board (CARB) also has adopted California ambient air quality standards (CAAQS) for these same criteria air pollutants. The presence of criteria pollutants in ambient air is generally caused by numerous, diverse, and widespread sources of emissions.

Ambient air quality standards are established to protect the public from adverse health effects of criteria pollutants and to provide protection against visibility impairment and damage to animals, crops, vegetation, and buildings. Health effects that have been associated with each of the criteria pollutants are summarized below.

Ozone

Ground-level ozone is a secondary pollutant that forms through the reaction of pollutants (e.g., oxides of nitrogen and reactive organic gases) in the atmosphere by a photochemical process involving sun energy. Chemicals that are precursors to ozone formation can also be emitted by natural sources, particularly trees and other plants. Ground-level ozone can pose risks to human health, in contrast to the stratospheric ozone layer that protects the earth from harmful wavelengths of solar ultraviolet radiation.

Short-term exposure to ground-level ozone can cause a variety of respiratory health effects, including inflammation of the lining of the lungs, reduced lung function, and respiratory symptoms such as cough, wheezing, chest pain, burning in the chest, and shortness of breath. Ozone exposure can decrease the capacity to perform exercise. Exposure to ozone can also increase susceptibility to respiratory infection. Exposure to ambient concentrations of ozone has been associated with the aggravation of respiratory illnesses such as asthma, emphysema, and bronchitis, leading to increased use of medication, absences from school, doctor and emergency department visits, and hospital admissions. Short-term exposure to ozone is associated with premature mortality. Studies have also found that long-term ozone exposure may contribute to the development of asthma, especially among children with certain genetic susceptibilities and children who frequently exercise outdoors. Long-term exposure to ozone can permanently damage lung tissue (EPA 2013).

Other health effects of ozone include the following:

- difficulty to breathe deeply and vigorously,
- shortness of breath and pain when taking a deep breath,
- coughing and sore or scratchy throat,
- inflammation and damage to the airways,
- aggravation of lung diseases such as asthma, emphysema, and chronic bronchitis,
- increased frequency of asthma attacks,
- increased susceptibility of the lungs to infection, and
- continued damage to the lungs even when the symptoms have disappeared (EPA 2012).

Nitrogen Oxides

Nitrogen oxides (NO_x) are a group of gases that form when nitrogen reacts with oxygen during combustion, especially at high temperatures. These compounds, including nitric oxide and nitrogen dioxide, can contribute

significantly to air pollution, especially in cities and areas with high motor vehicle traffic. At high concentrations, nitrogen dioxide can damage sensitive crops, such as beans and tomatoes, and aggravate respiratory problems (EPA 2013).

Sulfur Dioxide

Fossil fuel combustion by electrical utilities and industry is the primary source of sulfur dioxide in the United States. People with asthma are especially susceptible to the effects of sulfur dioxide. Short-term exposures of asthmatic individuals to elevated levels of sulfur dioxide while exercising at a moderate level may result in breathing difficulties, accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Studies also provide consistent evidence of an association between short-term sulfur dioxide exposures and respiratory symptoms in children, especially those with asthma or chronic respiratory symptoms. Short-term exposures to sulfur dioxide have also been associated with respiratory-related emergency department visits and hospital admissions, particularly for children and older adults (EPA 2013).

Particulate Matter

Particulate matter (PM) is a generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. Particles originate from a variety of man-made stationary and mobile sources, as well as from natural sources like forest fires. The chemical and physical properties of PM vary greatly with time, region, meteorology, and the source of emissions.

For regulatory purposes, EPA distinguishes between categories of particles based on size and has established standards for fine and coarse particles. PM_{10} , in general terms, is an abbreviation for particles with an aerodynamic diameter less than or equal to 10 micrometers (μ m), and it represents inhalable particles small enough to penetrate deeply into the lungs (i.e., thoracic particles). PM_{10} is composed of a coarse fraction referred to as $PM_{10-2.5}$ or as thoracic coarse particles (i.e., particles with an aerodynamic diameter less than or equal to 10 μ m and greater than 2.5 μ m) and a fine fraction referred to as $PM_{2.5}$ or fine particles (i.e., particles with an aerodynamic diameter less than or equal to 10 μ m and greater than 2.5 μ m) and a fine fraction referred to as $PM_{2.5}$ or fine particles (i.e., particles with an aerodynamic diameter less than or equal to 2.5 μ m). Thoracic coarse particles are emitted largely as a result of mechanical processes and uncontrolled burning. Important sources include resuspended dust (e.g., from cars, wind, etc.), industrial processes, construction and demolition operations, residential burning, and wildfires. Fine particles are formed chiefly by combustion processes (e.g., from power plants, gas and diesel engines, wood combustion, and many industrial processes) and by atmospheric reactions of gaseous pollutants (EPA 2013).

Although scientific evidence links harmful human health effects from exposures to both fine particles and thoracic coarse particles, the evidence is much stronger for fine particles than for thoracic coarse particles. Effects associated with exposures to both PM_{2.5} and PM_{10-2.5} include premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital and emergency department visits), and changes in sub-clinical indicators of respiratory and cardiac function. Such health effects have been associated with short- and/or long-term exposure to PM. Exposures to PM_{2.5} are also associated with decreased lung function growth, exacerbation of allergic symptoms, and increased respiratory symptoms. Children, older adults, individuals with preexisting heart and lung disease (including asthma), and persons with lower socioeconomic status are among the groups most at risk for effects associated with PM exposures. Information is accumulating and currently provides suggestive evidence for associations between long-term PM_{2.5} exposure and developmental effects, such as low birth weight and infant mortality resulting from respiratory causes (EPA 2013).

Lead

Historically, the primary source of lead emissions to the air was combustion of leaded gasoline in motor vehicles (such as cars and trucks), prior to the eradication of leaded gasoline in the United States in the mid-1990s. Since then, the remaining sources of lead air emissions have been industrial sources, including lead smelting operations, battery recycling operations, and piston-engine small aircraft that use leaded aviation gasoline. Lead accumulates in bones, blood, and soft tissues of the body. Exposure to lead can affect development of the central nervous system in young children, resulting in neurodevelopmental effects such as lowered IQ and behavioral problems (EPA 2013).

Carbon Monoxide

Gasoline-fueled vehicles and other on-road and non-road mobile sources are the primary sources of carbon monoxide (CO) in the United States. Exposure to carbon monoxide reduces the capacity of the blood to carry oxygen, thereby decreasing the supply of oxygen to tissues and organs. Reduction in oxygen supply to the heart, in particular, causes critical complications. People with any heart disease already have a reduced capacity for pumping oxygenated blood to the heart, which can cause them to experience myocardial ischemia (reduced oxygen to the heart), often accompanied by chest pain (angina), when exercising or under increased stress. For these people, short-term CO exposure further affects their body's already compromised ability to respond to the increased oxygen demands of exercise or exertion. Therefore, people with angina or heart disease are at the greatest risk from ambient CO. Other potentially at-risk populations include those with chronic obstructive pulmonary disease, anemia, diabetes, and those in prenatal or elderly life stages (EPA 2013).

4.1.1.3 Regional Air Quality and Attainment Status

The determination of whether a region's air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to the CAAQS and NAAQS. Both CARB and USEPA use monitoring station data to designate an area's attainment status with respect to the CAAQS and NAAQS, respectively, for criteria air pollutants. The purpose of these designations is to identify areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." The "unclassified" designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. See Table 4.1-1, "Ambient Air Quality Standards."

		California Standards¹	National S	tandards²
Pollutant	Average Time	Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
0.	1 hour	0.09 ppm (180 mg/m³)	_	Same as Primary Standard
03	8 hours	0.070 ppm (137 mg/m ³)	0.070 ppm (147 mg/m³)	
NOa	Annual Arithmetic Mean	0.030 ppm (57 mg/m ³)	0.053 ppm (100 mg/m ³)	Same as Primary Standard
	1 hour	0.18 ppm (339 mg/m ³)	0.100 ppm (188 mg/m ³)	

Table 4.1-1Ambient Air Quality Standards

		California Standards ¹	National S	tandards ²	
Pollutant	Average Time	Concentration ³	Primary ^{3,4}	Secondary ^{3,5}	
00	8 hours	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	Nere	
0	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None	
	04 having	0.04 ppm	0.14 ppm		
	24 nours	(105 mg/m ³)	(for certain areas)	_	
	Annual Arithmatia Maan		0.030 ppm		
SO ₂	Annual Antimetic Mean	—	(for certain areas)	_	
002	3 hours	_	_	0.5 ppm	
	5 110013			(1300 mg/m ³)	
	1 hour	0.25 ppm	0.075 ppm	_	
	Тпоаг	(655 mg/m ³)	(196 mg/m ³		
DM	24 hours	50 mg/m ³	150 mg/m ³	Same as Primary	
PIVI10	Annual Arithmetic Mean	20 mg/m ³	—	Standard	
	24 hours	No Separate State	35 ma/m3	Same as Primary	
PM _{2.5}	24 110015	Standard	55 mg/ms	Standard	
	Annual Arithmetic Mean	Annual Arithmetic Mean 12 mg/m ³		15 mg/m ³	
	30-day Average	1.5 mg/m ³	—	—	
Lead ⁶ Calendar Quarter		—	1.5 mg/m ³	Same as Primary	
	Rolling 3-Month Average	—	0.15 mg/m ³	Standard	
Hydrogen sulfide	1 hour	0.03 ppm	—	—	
Vinyl chloride	24 hours	0.01 ppm	—	—	
Sulfates	24 hours	25 µg/m³	—	—	
		Insufficient amount to			
Visibility-reducing		produce an extinction			
	8 hours	coefficient of 0.23 per			
	(10:00 a.m. to	kilometer because of	—	_	
particles	6:00 p.m. PST)	particles when the			
	· · /	relative humidity is			
		less than 70%			

Source: CARB 2016

Notes:

ppm = parts per million by volume.

mg/m³ = micrograms per cubic meter.

mg/m³= milligrams per cubic meter.

- California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter (PM₁₀, PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2. National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For NO₂ and SO₂, the standard is attained when the 3-year average of the 98th and 99th percentile, respectively, of the daily maximum 1-hour average at each monitor within an area does not exceed the standard (effective April 12, 2010). For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter (µg/m³) is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr: ppm (parts per million) in

this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
 CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These

4.1.1.4 Toxic Air Contaminants

According to Section 39655 of the California Health and Safety Code, toxic air contaminants (TACs) are a defined set of airborne pollutants that may "cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." A wide range of sources, from industrial plants to motor vehicles, emit TACs. TACs can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants.

The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute effects, such as eye watering, respiratory irritation (coughing), running nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure. Non-carcinogenic substances differ in they are generally assumed to feature a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis. Acute and chronic exposure to non-carcinogens is expressed as an HI, which is the ratio of exposure levels to an acceptable reference exposure level.

TACs are primarily regulated through state and local risk management programs. These programs are designed to eliminate, avoid, or minimize the risk of adverse health effects from exposures to TACs. A chemical becomes a regulated TAC in California based on designation by the Office of Environmental Health Hazard Assessment (OEHHA). As part of its jurisdiction under Air Toxics Hot Spots Program (Health and Safety Code Section 44360(b)(2)), OEHHA derives cancer potencies and reference exposure levels (RELs) for individual air contaminants based on the current scientific knowledge that includes consideration of possible differential effects on the health of infants, children and other sensitive subpopulations, in accordance with the mandate of the Children's Environmental Health Protection Act (Senate Bill 25, Escutia, Chapter 731, Statutes of 1999, Health and Safety Code Sections 39669.5 et seq.).

4.1.1.5 Air Quality Conditions at the Time of the 2008 EIR/EIS

Attainment Status and Planning

At the time the 2008 EIR/EIS was published, the ICAPCD was designated nonattainment for both federal and state standards for ozone and PM_{10} . The ICAPCD was in the process of preparing an attainment plan for the PM_{10} standards that would demonstrate a reduction of PM_{10} emissions by 5 percent each year until the standard is attained.

Monitoring Data

The 2008 EIR/EIS provided a summary of air quality monitoring data taken at CARB monitoring stations located throughout Imperial County. The nearest monitoring station to the Quarry was at Westmorland, approximately 25 miles east of the Quarry, surrounded by urban and agricultural uses. Data collected at the Calexico east station for nitrogen dioxide and sulfur dioxide was also utilized as the Westmorland station did not record these pollutants.

According to the 2008 EIR/EIS, monitoring data collected at these stations for the period 1997-2001 indicated that concentrations from one hour of ozone collection exceeded the State standards an average of 14 days

per year and exceeded the federal standards on an average of 2 days per year. The more stringent PM_{10} state standards were exceeded about 90 days per year and the federal standard was exceeded about 2 days per year. Except for a couple days in which NO_x was exceeded in Calexico, measurements of the other pollutants did not exceed the air quality standards.

4.1.1.6 Air Quality Conditions at Present

Imperial County Air Pollution Control District

The project site, including the Quarry expansion area, Well No. 3 site, and associated pipeline alignment are located in Imperial County which is under the jurisdiction of the ICAPCD.

Attainment Status and Planning

The portion of the SSAB that is in Imperial County is currently designated nonattainment (moderate) for both federal and state standards for ozone. The area is also partially designated nonattainment (moderate) for the federal PM_{2.5} standard. This partial nonattainment area encompasses the Imperial Valley in the southcentral urban and agricultural portions of the County. The Quarry, well site, and associated pipeline alignment are outside and west of this designated partial nonattainment area for PM_{2.5}. Imperial County is in attainment of the state PM_{2.5} standard and in attainment or designated unclassified for the remaining criteria air pollutant standards.

Since publication of the 2008 EIR/EIS, the ICAPCD achieved attainment of the federal and state PM₁₀ standards and in 2018, both ICAPCD and CARB approved the Imperial County 2018 Redesignation Request and Maintenance Plan for PM₁₀. This plan demonstrates that the ICAPCD has measures in place to ensure compliance with the PM₁₀ standards through 2030. Also in 2018, the ICAPCD approved the Imperial County 2018 Annual PM_{2.5} State Implementation Plan (SIP) requiring reduction of PM_{2.5} emissions by 5 percent each year until the standard is attained. With regard to ozone emissions, the ICAPCD adopted the 2017 Imperial County 2008 8-Hour Ozone SIP. Each of these plans is described further in the regulatory setting subsection below.

Monitoring Data

The two nearest monitoring stations to the project site are in El Centro and Westmoreland, approximately 20 and 25 miles east of the Quarry and well site/pipeline corridor, respectively. The El Centro station measures ozone, PM₁₀, PM_{2.5}, and nitrogen dioxide. The Westmoreland station measures ozone and PM₁₀. The monitoring stations are surrounded by urban and agricultural uses. By contrast, the Quarry is in an isolated canyon surrounded by open space.

According to the 2019 SEIS, the data collected at these stations between 2014 and 2017 indicate that 8-hour concentrations of ozone exceeded the federal standard an average of 13 days per year at the El Centro station. The 8-hour concentrations of ozone did not exceed the federal standard at the Westmoreland station. The federal PM₁₀ standard was exceeded an average of about 5 days per year at the El Centro station, and 17 days per year at the Westmoreland station. PM_{2.5} and NO_x federal standards were not exceeded at the El Centro station; those pollutants are not monitored at the Westmoreland station. Measurements of the other pollutants monitored did not exceed the applicable air quality standards.

San Diego County Air Pollution Control District

The Viking Ranch Restoration Site and Old Kane Springs Road Preservation Site are located in San Diego County which is under the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD).

Attainment Status and Planning

The SDAPCD is currently designated nonattainment of the federal and state 8-hour ozone standards, nonattainment of the state 1-hour ozone standard, and nonattainment of the state PM_{10} and $PM_{2.5}$ standards. The San Diego County APCD is designated attainment or unclassified for the remaining criteria air pollutant standards.

The SDAPCD's State Ozone Attainment Plan ("Regional Air Quality Strategy" or RAQS) was initially adopted in 1992 and was most recently updated in 2023. The RAQS identifies measures to reduce emissions from sources regulated by the SDAPCD, primarily stationary sources such as industrial operations and manufacturing facilities (SDAPCD 2023).

Monitoring Data

The nearest CARB air quality monitoring stations to the offsite mitigation sites in San Diego County, are the Alpine-Victoria Drive station (about 35 miles west) which monitors ozone and NO_x and the El Cajon stations (40 miles west) which monitor ozone, carbon monoxide, NOx, SO₂, and particulate matter. A review of monitoring data from these stations for the years 2017 through 2021 indicates that the 8-hour ozone standards were exceeded a total of 123 times and the 1-hour state ozone standard was exceeded a total of 22 times at the Alpine station during the three-year period (SDAPCD 2021).

4.1.2 Regulatory Setting

Federal, state, and local regulations pertaining to air quality potentially applicable to the project are discussed below.

4.1.2.1 Federal

U.S. Environmental Protection Agency

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. EPA is responsible for implementing most aspects of the Clean Air Act, which include NAAQS for major air pollutants, performance standards for new and modified sources, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. NAAQS are established for "criteria pollutants" under the Clean Air Act, which are O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead.

NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. NAAQS (other than for O₃, NO₂, SO₂, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O₃, NO₂, SO₂, PM₁₀, PM_{2.5}, are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires EPA to reassess NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames. NAAQS are presented in Table 4.1-1.

4.1.2.2 State

California Air Resources Board

The Clean Air Act delegates the regulation of air pollution control and the enforcement of NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California Clean Air Act (CCAA) and the federal Clean Air Act and regulating emissions from motor vehicles, mobile equipment, and consumer products. CARB also sets health-based air quality standards and control measures for TACs. CARB has established CAAQS, which are generally more restrictive than NAAQS. CAAQS describes an adverse condition (i.e., pollution levels must be below these standards before a basin can attain the standard). CAAQS for O₃, CO, SO₂ (1 hour and 24 hours), NO₂, PM₁₀, and PM_{2.5} and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. NAAQS and CAAQS are presented in Table 4.1-1.

Idling of Commercial Heavy-Duty Trucks

In January 2005, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM, which became effective February 1, 2005, prohibits idling for more than 5 minutes for all diesel-fueled commercial motor vehicles with a gross vehicular weight ratings over 10,000 pounds that are or must be licensed for operation on highways. The ATCM contains several exceptions that allow trucks to idle, including during the following periods:

- (1) a bus is idling for
 - (A) up to 10.0 minutes prior to passenger boarding, or
 - (B) when passengers are onboard;

(2) idling of the primary diesel engine is necessary to power a heater, air conditioner, or any ancillary equipment during sleeping or resting in a sleeper berth. This provision does not apply when operating within 100 feet of a restricted area;

(3) idling when the vehicle must remain motionless due to traffic conditions, an official traffic control device, or an official traffic control signal over which the driver has no control, or at the direction of a peace officer, or operating a diesel-fueled APS at the direction of a peace officer;

(4) idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area;

(5) idling of the primary engine or operating a diesel-fueled APS when forced to remain motionless due to immediate adverse weather conditions affecting the safe operation of the vehicle or due to mechanical difficulties over which the driver has no control;

(6) idling to verify that the vehicle is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine idling is mandatory for such verification;

(7) idling of the primary engine or operating a diesel-fueled APS is mandatory for testing, servicing, repairing, or diagnostic purposes;

(8) idling when positioning or providing a power source for equipment or operations, other than transporting passengers or propulsion, which involve a power take off or equivalent mechanism and is powered by the primary engine for:

(A) controlling cargo temperature, operating a lift, crane, pump, drill, hoist, mixer (such as a ready mix concrete truck), or other auxiliary equipment;

(B) providing mechanical extension to perform work functions for which the vehicle was designed and where substitute alternate means to idling are not reasonably available; or

(C) collection of solid waste or recyclable material by an entity authorized by contract, license, or permit by a school or local government;

(9) idling of the primary engine or operating a diesel-fueled APS when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency;

(10) idling of the primary engine or operating a diesel-fueled APS by authorized emergency vehicles while in the course of providing services for which the vehicle is designed;

While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling (CARB 2020).

In-Use Off-Road Diesel-Fueled Fleets

On July 26, 2007, CARB adopted the Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Diesel Regulation) to reduce PM and NO_X emissions from existing off-road heavy-duty diesel vehicles in California. This regulation required that specific fleet average requirements are met for NO_X emissions and for PM emissions. Where average requirements cannot be met, Best Available Control Technology (BACT) requirements apply. All self-propelled off-road diesel vehicles 25 horsepower (hp) or greater used in California and most two-engine vehicles (except on-road two-engine sweepers) are subject to the Off-Road Diesel Regulation. This includes vehicles that are rented or leased (rental or leased fleets).

The Off-Road Diesel Regulation:

- requires all vehicles be reported to CARB and labeled,
- restricts the adding of older vehicles into fleets starting on January 1, 2014,
- requires fleet owners to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS) i.e., exhaust retrofits,
- imposes limits on idling and requires a written idling policy, and
- requires a disclosure when selling vehicles.

All fleets must meet emission performance and reporting requirements by January 1, 2028. Annual reporting requirements, including the Responsible Official Affirmation of Reporting form, must be completed by March 1, 2028. Large fleets must report annually from 2012 to 2023, medium fleets from 2016 to 2023, and small fleets from 2018 to 2028. For each annual reporting date, a fleet must report any changes to the fleet, hour meter readings (for low-use vehicles and vehicles used a majority of the time, but not solely, for agricultural operations), and also must submit the Responsible Official Affirmation of Reporting (ROAR) form. Following January 1, 2023, small fleets may no longer add a vehicle with a Tier 2 engine to its fleet. The engine tier

must be Tier 3 or higher. Medium and large fleets may not add tier 2 engines as of January 1, 2018. The goal of the In-Use Off-Road Diesel-Fueled Fleets Regulation is to reduce PM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California (CARB 2020).

Truck and Bus Regulation

The Truck and Bus regulation affects individuals, private companies, and Federal agencies that own diesel vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,000 lbs. that operate in California. The regulation also applies to publicly and privately owned school buses; however, their compliance requirements are different, and reporting is not required. The regulation does not apply to state and local government vehicles and public transit buses because they are already subject to other regulations. Vehicles that are exempt from other heavy duty diesel regulations, such as Cargo Handling Equipment, Drayage Truck, and Solid Waste Collection Vehicle regulations, may be subject to the Truck and Bus Regulation. Drayage and solid waste collection trucks with 2007 to 2009 model year engines must meet the requirements of the regulation by January 1, 2023.

Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. All heavier vehicles with 1996 or newer model year engines should have a PM filter (OEM or retrofit). By January 1, 2023, all trucks and buses must have 2010 model year or later engines with few exceptions.

Lighter trucks and buses with a GVWR of 14,001 to 26,000 lbs. have replacement requirements starting January 1, 2015. The Engine Model Year Schedule for Lighter vehicles shown in the table to the right lists the compliance dates by engine model year for existing lighter trucks. Starting January 1, 2015, lighter vehicles with engines that are 20 years or older must be replaced with newer trucks (or engines). Starting January 1, 2020, all remaining vehicles need to be replaced so that they all have 2010 model year engines or equivalent emissions by January 1, 2023 (CARB 2020).

4.1.2.3 Local

Imperial County General Plan

The goals, objectives, and policies in the *Imperial County General Plan* are intended to inform decision makers, the general public, public agencies, and those doing business in the County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The following objectives and policies contained within the *Imperial County General Plan Conservation Element* pertain to air quality and the proposed project:

Conservation and Open Space Element

Goal 7: The County shall actively seek to improve the quality of air in the region.

Objective 7.1:	Ensure that all projects and facilities comply with current Federal, state, and local requirements for attainment of air quality objectives.
Objective 7.2:	Develop management strategies to mitigate fugitive dust. Cooperate with all Federal, State and local agencies in the effort to attain air quality objectives.
Objective 7.4:	Enforce and monitor environmental mitigation measures relating to air quality.

Imperial County Air Pollution Control District

Imperial County Air Pollution Control District (ICAPCD) shares responsibility with CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained within the County. Generally, the ICAPCD is responsible for the inspection of stationary sources, monitoring of ambient air quality, and planning activities such as modeling and maintenance of the emissions inventory.

Attainment Plans

Under the CCAA, ICAPCD is required to develop an air quality plan for nonattainment criteria pollutants. The ICAPCD is designated nonattainment for the federal and state standards for 8-hour ozone and is designated nonattainment (partial) for the federal PM_{2.5} standard. The ICAPCD adopted an Ozone State Implementation Plan (SIP) in 2017 and an Annual Particulate Matter Less than 2.5 Microns in Diameter State Implementation Plan in 2018.

Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard

The 2017 Ozone SIP was adopted by ICAPCD in September 2017 and subsequently by CARB. The SIP shows through photochemical grid modeling and a weight of evidence analysis that, but for emissions emanating from Mexico, the control measures included in the SIP are adequate to attain the 2008 Ozone standard and maintain this status through the July 20, 2018, attainment date and into the future.

The ICAPCD is working cooperatively with counterparts from Baja California Department of Environmental Protection to implement emissions reductions strategies and projects for air quality improvements at the border. The two states strive to achieve these goals through local input from government officials and representatives from academia, environmental organizations, and the general public. The Imperial Valley-Mexicali Air Quality Task Force (AQTF) has been organized to address unique issues in the binational Mexicali/Imperial Valley air shed. This group promotes regional efforts to improve the air quality monitoring network, to inventory emissions, and to develop air pollution transport modeling, as well to create programs and strategies to improve air quality.

Imperial County 2009 PM_{10} SIP and 2018 Redesignation Request and Maintenance Plan for PM_{10}

The ICAPCD adopted the 2009 PM_{10} SIP in August 2009 that developed fugitive dust control measures (Regulation VIII). The EPA approved these Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP in April 2013. The Regulation VIII fugitive dust rules (as updated) were based on the related 2005 Best Available Control Measure (BACM) analysis. Rules 800 to 805 of the Regulation VIII fugitive dust rules were included in the 2008 EIR/EIS. USG's operations are required to comply with these regulations as applicable and updated enforceable through the ICAPCD.

The ICAPCD and CARB approved the Imperial County 2018 Redesignation Request and Maintenance Plan for PM_{10} in late 2018. This document revises the 2009 PM_{10} SIP and requests redesignation of the Imperial Valley Planning Area as attainment. The Imperial Valley Planning Area is currently designated as nonattainment (serious) area for the PM_{10} NAAQS but can be redesignated as attainment if, among other requirements, the USEPA determines that the NAAQS has been attained. A review of the PM_{10} monitoring data from 2014 through 2016 shows that, when excluding

exceptional events (i.e., high wind driven dust storms), the Imperial Valley Planning Area did not violate the federal 24-hour PM_{10} standard.

Imperial County 2013 PM_{2.5} SIP (2006 24-Hour PM_{2.5})

The ICAPCD and the CARB approved the 2013 $PM_{2.5}$ SIP in December 2014 and this SIP is under review by the EPA. The 2013 $PM_{2.5}$ SIP concluded that the majority of the $PM_{2.5}$ emissions result from emissions originating in Mexico. The SIP demonstrates attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. In accordance with the CAA, the $PM_{2.5}$ SIP satisfies the attainment demonstration requirement satisfying the provisions of the CAA and the County is considered in attainment for CAAQS. However, the partial County area is currently considered nonattainment (moderate) for $PM_{2.5}$ NAAQS. Note that the project sites are outside of this partial nonattainment area for $PM_{2.5}$.

CEQA Air Quality Handbook

ICAPCD's CEQA Air Quality Handbook provides guidance to assist lead agencies in determining the level of significance of project-related emissions, and contains thresholds of significance for criteria air pollutants, TACs, and odors. According to ICAPCD's Air Quality Handbook, project emissions that exceed the recommended threshold levels are considered potentially significant and should be mitigated where feasible. Although the Air Quality Handbook is intended to help lead agencies navigate through the CEQA process, ICAPCD indicates that the guidelines for implementation of its significance thresholds are advisory only and should be followed by local governments at their own discretion.

San Diego County General Plan

The goals and policies of the San Diego County General Plan provide direction to future growth and development in the county. The following goals and policies from the San Diego County General Plan Conservation Element relate to air quality and apply to proposed actions at the Viking Ranch Restoration Site and Old Kane Springs Road Preservation Site, located in unincorporated San Diego County.

Conservation and Open Space Element

- **Goal COS-14:** Sustainable Land Development. Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.
- **Policy COS-14.8:** Minimize Air Pollution. Minimize land use conflicts that expose people to significant amounts of air pollutants.
- **Policy COS-14.9:** Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.
- **Policy COS-14.10:** Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

- **Policy COS-14.11:** Native Vegetation. Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.
- **Goal COS-15:** Sustainable Architecture and Buildings. Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.
- **Policy COS-15.6:** Design and Construction Methods. Require development design and construction methods to minimize impacts to air quality.

San Diego County Air Pollution Control District

The San Diego County APCD is responsible for regulating stationary sources of air emissions in the San Diego Air Basin (SDAB). The San Diego APCD Rules and Regulations establish emission limitations and control requirements for stationary sources, based on their source type and magnitude. The San Diego County APCD and the San Diego Association of Governments are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County RAQS was initially adopted in 1991 and is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures. The most recent update was adopted March 9, 2023 (San Diego County APCD 2023).

The RAQS includes all feasible control measures that can be implemented for the reduction of O₃ precursor emissions. To be consistent with the RAQS, a project must conform to emission growth factors outlined in the plan. Control measures for stationary sources proposed in the RAQS and adopted by the San Diego County APCD are incorporated into the San Diego County APCD Rules and Regulations. The San Diego APCD has also developed the air basin's input to the SIP. The SIP includes the San Diego County APCD's plans and control measures for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. The San Diego County APCD developed its 2020 Eight-Hour Ozone Attainment Plan for San Diego County, which provides plans for attaining and maintaining the 8-hour NAAQS for O₃ (San Diego County APCD 2020). A Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard was adopted by the SDAPCD in 2012 but has not yet been approved by the USEPA (San Diego County APCD 2012). The SDAB is designated attainment or unclassified for the remaining criteria air pollutants.

4.1.3 Significance Thresholds and Analysis Methodology

4.1.3.1 Significance Criteria

2008 EIR/EIS Significance Criteria

The 2008 EIR/EIS evaluated the project's air quality impacts using the following significance criteria:

Significant impacts to air quality may result if the proposed project:

- Causes or makes worse a violation of an ambient air quality standard (ICAPCD Rule 207C.5.b1);
- Interferes or delays with the attainment of any ambient air quality standard;
- Conflicts with implementation of any applicable air quality plans of the ICAPCD;

- Results in a cumulatively considerable net increase in ozone and PM₁₀ which the Salton Sea Air Basin is in nonattainment;
- Causes sensitive receptors to be exposed to substantial pollutant concentrations; or
- Creates objectionable odors affecting a substantial number of people.

CEQA Appendix G Significance Criteria

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on air quality if it would:

- a) conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- c) expose sensitive receptors to substantial pollutant concentrations; or
- d) result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Imperial County Air Pollution Control District

The Imperial County Air Pollution Control District's *CEQA Air Quality Handbook* provides quantitative significance thresholds to assist lead agencies in making a determination on the type of environmental document to prepare. When the preliminary analysis of a project indicates that the proposed project may potentially be near the thresholds identified in Table 4.1-2, "ICAPCD Thresholds of Significance for Project Operations," below, the lead agency may consider the project as having a potentially significant impact.

Pollutant	Tier I	Tier II
NO _x and ROG	Less than 137 lbs/day	137 lbs./day and greater
PM ₁₀ and SO _x	Less than 150 lbs./day	150 lbs./day and greater
CO and PM _{2.5}	Less than 550 lbs./day	550 lbs./day and greater
Level of Significance	Less than Significant Impact	Significant Impact
Level of Analysis	Initial Study	Comprehensive Air Quality Analysis Report
Environmental Document	Negative Declaration	Mitigated Negative Declaration or Environmental Impact Report

 Table 4.1-2

 ICAPCD Thresholds of Significance for Project Operations

Source: ICAPCD CEQA Air Quality Handbook 2017

In addition to the quantitative thresholds shown in Table 4.1-2, the ICAPCD requires Tier I projects to implement all feasible standard mitigation measures provided in the *CEQA Air Quality Handbook* in order to achieve a level of insignificance. For Tier II projects to achieve a level of insignificance, all feasible standard mitigation measures as well as all feasible discretionary mitigation measures must be implemented.

San Diego County Air Pollution Control District

The San Diego County Air Pollution Control District (SDAPCD) has established annual significance thresholds for NO_X and reactive organic gases (ROG) for stationary sources. However, SDAPCD has not established rules for characterizing impacts from construction or general land use development. SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds found in SDAPCD regulations for stationary sources (pursuant to SDAPCD Rule 20.1, et seq.) and shown in

Table 4.1-3, "San Diego County APCD Air Quality Significance Threshold Standards." Per SDAPCD (2007), daily significance thresholds are most appropriately used for standard construction emissions.

Significance Thresholds (lbs./day)	NOx	VOC	PM ₁₀	PM _{2.5}	CO	SOx
Construction (lbs./day)	250	75	100	55	550	250
Construction (tons/year)	40	13.7	15	10	100	40

 Table 4.1-3

 San Diego County APCD Air Quality Significance Threshold Standards

Source: San Diego County APCD 2017

Notes: The San Diego County APCD does not have thresholds of significance for VOCs or PM_{2.5}. As such, the VOC and PM2.5 thresholds for construction from the SCAQMD's CEQA Air Quality Significance Thresholds (SCAQMD 2015) were utilized.

SDAPCD Rules do not provide established significance thresholds for emissions of volatile organic compounds (VOCs) or PM_{2.5}. The use of the screening level for VOCs specified by the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD, is recommended for evaluating projects in San Diego County. For PM_{2.5}, the EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, which quantifies significant emissions as 55 pounds per day or 10 tons per year, is used as the screening-level criteria, as shown in Table 4.1-3.

4.1.3.2 Analysis Methodology

The following sections discuss the methods for evaluating emission of criteria air pollutants, health impacts associated with project emissions, and emission of objectionable odors.

As described previously, the project does not propose any changes to Quarry operations or the location, development, or operation of Well No. 3 and associated pipeline from that evaluated in the 2008 EIR/EIS and 2019 SEIS. Therefore, the following analysis focuses on emissions associated with restoration and preservation of the off-site mitigation sites which would be limited to temporary, construction-phase emissions. These emissions are compared against significance thresholds adopted by SDAPCD.

Criteria Pollutant Emissions

The methodology for analyzing the effects of the proposed project on air quality is the same as discussed in the 2008 EIR/EIS. Activities associated with the construction and operation of the proposed Quarry expansion and modernization were evaluated to determine the potential to affect existing air quality conditions. Construction and operation emissions were assessed in accordance with EPA and ICAPCD air quality regulations using CARB's Off-Road Emissions Model, CARB Off-Road Diesel Tier Emission Factors, and Off-road and On-Road Mobile Source Emissions' Factors (EMFAC per SCAQMD website) and emissions estimates were compared with applicable state and federal air quality standards.

Health Risk

Exposure to equipment exhaust and fugitive dust can lead to various health impacts. Specifically, the following three types of public health impacts are commonly associated with exposure to trace metals in dust and diesel particulate matter:

- 1. Cancer risk
- 2. Acute non-cancer risk

3. Chronic non-cancer risk

Due to the lack of sensitive receptors near the project site and offsite mitigation sites, a formal, quantitative health risk assessment was not performed. The following analysis of potential health risks associated with diesel exhaust and particulate matter emissions is qualitative and based on the distances between emission source and receptors, the projects estimated emissions as they compare to applicable air district significant thresholds, and wind direction and topography of the area.

Odor

For consideration of odors, the impact analysis relies on the screening distances for various land uses that typically generate odors presented in the ICAPCD's CEQA Guidelines as well as compliance history obtained from ICAPCD for the existing Quarry operation.

4.1.4 **Project Impacts and Mitigation Measures**

4.1.4.1 2008 EIR/EIS Impact Analysis

Under the Quarry expansion, excavation operations onsite would extend for approximately 80 years and Quarry production would increase from approximately 1.13 million tons per year to 1.92 million tons per year. Criteria air pollutant emissions associated with the Quarry operations include stationary sources, fugitive dust sources, and mobile sources. The 2008 EIR/EIS estimated emissions of criteria air pollutants for the pre-project and post-project conditions and found that emissions resulting from the expansion and modernization of the Quarry would not exceed the CEQA thresholds of significance presented in the CEQA Air Quality Handbook (ICAPCD 2017) and the impact would be less than significant. Although the criteria air pollutants generated by expansion of the Quarry would not exceed the CEQA thresholds of significance, the 2008 EIR/EIS noted that exhaust emissions from mobile equipment would increase due to increased production of gypsum at the Quarry. The 2008 EIR/EIS includes the following mitigation measures to further limit exhaust emissions from mobile equipment at the Quarry:

Mitigation Measure 3.6-1a: USG shall ensure all equipment is maintained and tuned according to manufacturer's specifications.

Mitigation Measure 3.6-1b: USG shall schedule production activities to minimize daily equipment operations and idling trucks.

Mitigation Measure 3.6-1c: USG shall comply with all existing and future California Air Resources Board (CARB) and ICAPCD regulations related to diesel-fueled trucks and equipment, which may include: (1) meeting more stringent engine emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low or ultra-low sulfur diesel fuel; and (4) use of alternative fuels or equipment.

USG transports gypsum from the Quarry to the Plant via a private narrow-gauge railroad line which has been in operation since the 1920s. The analysis of Quarry expansion also evaluated the potential of the emissions generated by the increased number of train trips to and from the Quarry to exceed significance thresholds. It was found that the net exhaust emissions changes for criteria pollutants from the diesel locomotive between the pre-project and the post-project conditions would not exceed the CEQA thresholds of significance. The 2008 EIR/EIS noted that construction of Well No. 3 and the associated pipeline would be relatively short term

(10 weeks) and would disturb a relatively small area (1/8 acre would be disturbed during well, and about 1,500 feet of trench, about one acre, would be active at any given time during pipeline construction). The 2008 EIR/EIS found that the combined emissions from the construction of both the Quarry and Plant pipelines would not exceed the CEQA thresholds of significance. Emissions from the operation of Well No. 3 and associated pipeline were determined to be negligible. Therefore, the impact related to air quality emissions from the construction and operation of Well No. 3 and the associated pipeline was found to be less than significant.

The previous environmental review process did not identify odor as an issue with potentially significant environmental impacts and therefore this topic was not analyzed in the 2008 EIR/EIS.

4.1.4.2 2019 SEIS Impact Analysis

The 2019 SEIS provided further evaluation of the proposed project under the National Environmental Policy Act (NEPA). This evaluation was based on updated emissions estimates for the project, which are provided as Appendix C-2 to this SEIR. As described in more detail below, the SEIS concluded that the project would comply with all applicable NAAQS and no additional mitigation measures were provided.

4.1.4.3 Substantial Project Changes

Project Revisions

The proposed Quarry expansion, and the proposed Well No. 3 and associated pipeline, are substantially in the same location and same configuration as the features that were evaluated in the 2008 EIR/EIS. Therefore, any minor revisions would not create a new or increase a significant impact related to air quality. However, the restoration of the Viking Ranch site and preservation of the Old Kane Springs Road site are proposed in response to mitigation required by the 2019 SEIS, and these are new actions under the proposed project.

Changed Circumstances

Since the 2008 EIR/EIS was prepared, there have been changes to attainment designations, applicable regulations, plans or policies/management goals that affect air quality. The updated information, as described previously in this section and summarized below, is considered herein.

Attainment/Nonattainment Designations

The Imperial County portion of the Salton Sea Air Basin is currently designated nonattainment (moderate) for both the federal and state 8-hour Ozone standards. This has not changed since the 2008 EIR/EIS. The most recently adopted ozone attainment plan adopted by the ICAPCD is the 2017 Imperial County 2008 8-Hour Ozone SIP.

There were no defined attainment/nonattainment areas for PM_{2.5} in 2008. In 2009, the USEPA designated a partial County area, the south central or valley area of Imperial County, as nonattainment (moderate) for the federal PM_{2.5} standard. The 2018 Imperial County Annual PM_{2.5} SIP requires reduction of PM_{2.5} emissions by 5 percent each year until the standard is attained.

Since publication of the 2008 EIR/EIS, the ICAPCD achieved attainment of the federal and state PM_{10} standards and in 2018, both ICAPCD and CARB approved the Imperial County 2018 Redesignation Request and Maintenance Plan for PM_{10} .

Imperial County 2009 PM₁₀ SIP and 2018 Redesignation Request and Maintenance Plan for PM₁₀

The ICAPCD adopted the 2009 PM₁₀ State Implementation Plan (SIP) in August 2009 that developed fugitive dust control measures (Regulation VIII). The USEPA approved these Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP in April 2013. The Regulation VIII fugitive dust rules (as updated) were based on the related 2005 Best Available Control Measure (BACM) analysis. Rules 800 – 805 of the Regulation VIII fugitive dust rules were included in the 2008 Final EIR/EIS. USG's operations are required to comply with these regulations as applicable and updated enforceable through the ICAPCD.

The ICAPCD and CARB approved the "Imperial County 2018 Redesignation Request and Maintenance Plan for PM10" in late 2018. This document revises the 2009 PM_{10} SIP and requests redesignation of the Imperial Valley Planning Area as attainment. The Imperial Valley Planning Area is currently designated as a Serious nonattainment area for the PM_{10} NAAQS but can be redesignated as attainment if, among other requirements, the USEPA determines that the NAAQS has been attained. A review of the PM_{10} monitoring data from 2014 through 2016 shows that, when excluding exceptional events (i.e., high wind driven dust storms), the Imperial Valley Planning Area did not violate the federal 24-hour PM_{10} standard.

Imperial County 2017 75 ppb 8-Hour Ozone SIP

The ICAPCD adopted the 2017 Ozone SIP in September 2017. This SIP is under review by the USEPA. The SIP shows through photochemical grid modeling and a weight of evidence analysis that, but for emissions emanating from Mexico, the control measures included in the SIP are adequate to attain the 2008 Ozone standard and maintain this status through the July 20, 2018, attainment date and into the future.

The ICAPCD is working cooperatively with counterparts from Baja California Department of Environmental Protection to implement emissions reductions strategies and projects for air quality improvements at the border. The two states strive to achieve these goals through local input from government officials and representatives from academia, environmental organizations, and the general public. The Imperial Valley-Mexicali Air Quality Task Force (AQTF) has been organized to address unique issues in the binational Mexicali/Imperial Valley air shed. This group promotes regional efforts to improve the air quality monitoring network, to inventory emissions, and to develop air pollution transport modelling, as well to create programs and strategies to improve air quality.

Permits

The Plant and Quarry operate within the jurisdiction of the ICAPCD under a Title V Operating Permit issued in accordance with the provisions of 40 CFR Part 70 and Rule 900 of the ICAPCD. Three active permits (Nos. 1992, 2456, and 2834) issued by the ICAPCD to operate stationary sources at the Quarry are incorporated into the Plant's and Quarry's Title V Operating Permit (V-2834). The V-2834 permit renewal application was submitted on April 18, 2016, and is currently under review by the ICAPCD for renewal purposes. Per ICAPCD Rule 115, permits issued by the ICAPCD shall require compliance with all applicable air pollution control regulations of federal, state, and local agencies. USG is required to comply with its Title V Operating Permit and all other applicable ICAPCD rules as amended.

New Information

Since 2008, air quality regulations promulgated by the County SIPs have substantially reduced the diesel emissions from the equipment in use at the Plant and Quarry compared with the equipment assessed in the 2006 Draft EIR/EIS. These regulations require the following:

- Limits vehicle idling to no more than five consecutive minutes at one location, requires a written idling policy, and requires a disclosure when selling vehicles (California Code of Regulations Title 13, Section 2485; 2004 as amended);
- Requires all vehicles to be reported to ARB (Using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS; i.e., exhaust retrofits).

Consequently, the 2019 SEIS updated the emissions estimates of all proposed components of the USG Expansion/Modernization Project, including the new water pipeline and electrical line for the Quarry water supply. Based on the updated criteria air pollutant emissions estimates for the operation of the Quarry under the proposed expansion, the 2019 SEIS found that the proposed project would not generate total annual emissions that exceed the CEQA thresholds of significance.

The 2019 SEIS also estimated the criteria air pollutant emissions from mobile and fugitive sources and found that the mobile and fugitive emissions from the USG Expansion/Modernization Project, including emissions from both Quarry and Plant sources (e.g., Quarry mobile sources, locomotive operation, and construction of the proposed Well No. 3 and associated pipeline), would not generate total annual emissions that exceed the CEQA thresholds of significance.

Significance Determination

Based on project revisions and changed circumstances that may create a new or increased significant impacts, the County has amplified and augmented the analysis contained in the 2008 EIR/EIS. This evaluation is provided in the following impact analysis.

4.1.4.4 Subsequent Environmental Analysis

Impact 4.1-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

Quarry, Well No. 3, Pipeline

The ICAPCD's 2017 8-Hour Ozone AQMD and 2017 PM_{10} SIP are the applicable air quality plans for the portions of the project that are located in Imperial County. Consistency with an air quality plan is determined by whether the project would hinder implementation of control measures identified in the air quality plans or otherwise interfere with state's plans to attain and maintain applicable air quality standards, including as a result of unplanned population or employment growth.

The locations and proposed operations of the Quarry, Well No. 3, and associated pipeline would be substantively the same as that evaluated in the 2008 EIR/EIS. Thus, project emissions would be the same as those presented in the 2008 EIR/EIS. As stated previously, the 2008 EIR/EIS determined that project impacts would not exceed applicable ICAPCD thresholds of significance and would be less than significant.

Project emissions have actually been reduced compared to 2008 estimates due to advancements in fuel efficiency and control technologies. The proposed project changes would not result in any population or employment growth. Therefore, the proposed project would not conflict with or obstruct implementation of the ICAPCD air quality plans. The project would not result in any new or more severe impacts related to a conflict with the applicable air quality plans.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Viking Ranch Restoration Site

Emissions resulting from restoration of the Viking Ranch Restoration Site would be limited to short-term construction emissions and as demonstrated in Impact 4.1-2, would not exceed applicable thresholds. Furthermore, the proposed restoration activities would not include any development or otherwise result in growth and would not hinder implementation of the SDAPCD air quality plans.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Old Kane Springs Road Preservation Site

Emissions associated with preservation of the Old Kane Springs Preservation Site would be limited to regular maintenance truck trips and would be negligible. Thus, this project component would not hinder implementation of the SDAPCD air quality plans and would have no potential to cause unplanned growth.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Impact 4.1-2: 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

The ICAPCD is currently designated nonattainment (moderate) for the federal and state 8-hour ozone standards and the federal PM_{2.5} standard.

Quarry, Well No. 3, and Associated Pipeline

Under the Quarry expansion, excavation operations onsite would extend for approximately 80 years and Quarry production would increase from approximately 1.13 million tons per year to 1.92 million tons per year. Criteria air pollutant emissions associated with the Quarry operations include stationary sources, fugitive dust sources, and mobile sources.

As described previously, the 2008 EIR/EIS determined that particulate matter emissions at both the Quarry and the well site/pipeline alignment would not exceed applicable thresholds and no mitigation was required. The 2008 EIR/EIS further determined that Quarry exhaust emissions would be potentially significant and provided Mitigation Measures 3.6-1a through 3.6-1c.

A comparison of the emission estimates presented in the 2008 EIR/EIS and the 2019 SEIS indicate that air quality regulations promulgated by the County SIPs since 2008 have reduced overall emissions from both stationary and mobile sources at the Quarry. For example, CARB passed regulations in 2007 for In-Use Off-Road Diesel-Fueled Vehicles to reduce NOx, diesel PM, and other criteria pollutant emissions from diesel-fueled vehicles driving off road. These regulations as updated through 2018, have substantially reduced the diesel emissions from the equipment in use at the Quarry, compared with the equipment assessed in the 2008 EIR/EIS. These regulations require the following:

- Limits vehicle idling to no more than five consecutive minutes at one location, requires a written idling policy, and requires a disclosure when selling vehicles (California Code of Regulations Title 13, Section 2485; 2004 as amended);
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS; i.e., exhaust retrofits).

The 2019 SEIS air quality evaluation updated mobile equipment emissions utilizing the current fleet of vehicles, the engine Tier levels, and similar hours of operations as estimated in the 2008 EIR/EIS. Table 4.1-4, "Estimated Air Pollutant Emissions (Quarry, Well No. 3, and Associated Pipeline) Existing Conditions and Proposed Conditions," presents both the emission estimates from the 2008 EIR/EIS ("existing") and the 2019 SEIS emission estimates based on the 2018 fleet emission factors ("proposed"). The "Emission Net Change" row is the net emission increase or decrease between the existing conditions (2008) and the proposed conditions (2019). As shown, with the exception of CO, project emissions of criteria air pollutants would be lower than previously estimated in the 2008 EIR/EIS. Table 4.1-4 also provides the ICAPCD's CEQA thresholds and states whether the net emissions exceed these thresholds. As shown, the 2019 SEIS emission estimates for the Quarry expansion, including development and operation of proposed Well No. 3 and associated pipeline, would not exceed the ICAPCD's thresholds.

Table 4.1-4
Estimated Air Pollutant Emissions (Quarry, Well No. 3, and Associated Pipeline)
Existing Conditions and Proposed Conditions (Tons per Year)

	N	Ox	(:0	Р	M 10	Р	M _{2.5}	V	00
Source	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Quarry Stationary Sources					108.36	56.99	22.54	11.85		
Quarry/Plant										
Mobile	57 75	18 5/	22.11	36 33	6.02	0.62	6.02	0.57	1 03	1 24
Equipment/	51.15	10.04	22.11	50.55	0.02	0.02	0.02	0.57	4.00	1.24
Trucks										
Haul/Access										
Roads (PM or					92.88	58.05	19.32	12.07		
dust only)										
Fugitive Dust										
Plus Blasting	0.03	0.05	0.11	0.18	121.95	160.88	25.37	33.46		
Emissions										

	N	Ox	(:0	P	M 10	Р	M2.5	V	00
Source	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Onsite Vehicles	0.29	0.29	0.55	0.55	0.02	0.02	0.02	0.02	0.06	0.06
Emissions Totals	58.07	18.88	22.77	37.06	329.23	276.54	73.27	57.97	4.09	1.30
Emission Net Change	-3	9.19	14	1.29	-5	2.69		15.3	-2	2.79
CEQA Thresholds per ICAPCD		25	1	00		27	1	100		25
Significant Impact?		No	1	No		No		No		No

Source: BLM 2019 (Table 3.5-2 on page 3.5-8)

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: Implement the following existing mitigation measures (see Section 4.1.4 for the full text of each measure):

- 2008 EIR/EIS:
 - Mitigation Measures 3.6-1a
 - Mitigation Measures 3.6-1b
 - Mitigation Measure 3.6-1c

Level of Significance After Mitigation: Less than significant.

Viking Ranch Restoration Site

Proposed restoration activities at the Viking Ranch site would include tree stump removal, grading, excavations, and revegetation of the site. These activities are expected to require the use of backhoes, a trencher, grader, dozer, and dump truck, as well as supply and water trucks. Once construction is completed, operational emissions would be limited to those associated with infrequent maintenance truck trips and would be negligible. Thus, the following analysis focuses on construction emissions.

According to the SDAPCD (2007), construction impacts predominantly result from two sources: (1) fugitive dust from surface disturbance activities, and (2) exhaust emissions resulting from the use of construction equipment. The predominant pollutant of concern during construction is particulate matter, since PM₁₀ is emitted as windblown (fugitive) dust during surface disturbance, and as exhaust of diesel-fired construction equipment (particularly as PM_{2.5}). According to the 2021 HMMP (Dudek), fugitive dust may be generated during proposed berm demolition, filling of the diversion ditch, and site grading but would be minimized through water application for dust control during these activities. Other emissions of concern include other mobile combustion sources (on-road and off-road) associated with the project such as NO_x, SO_x, CO, PM₁₀, and PM_{2.5}.

The project's construction-related emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2022 version 1.1.4 and are included as Appendix C-2. CalEEMod allows the user to enter project-specific construction information, such as types, number, and horsepower of construction equipment, and number and length of off-site motor vehicle trips. As shown in Table 4.1-5, "Estimated Air Pollutant Emissions (Viking Ranch) (Unmitigated)," construction emissions for the project would result in

maximum daily emissions of approximately 24 pounds of NO_x , 25 pounds of CO, 5 pounds of PM_{10} , and 5 pounds of $PM_{2.5}$. As discussed in Section 4.1.4.1, above, the SDAPCD has established recommended screening level thresholds of significance for regional pollutant emissions. The project estimates of maximum daily emissions would not exceed the thresholds of significance recommended by the SDAPCD. Regardless, standard mitigation for fugitive dust construction combustion equipment emissions would be required per Mitigation Measures 4.1-1a and 4.1-1b, below.

Construction Phase	NOx ¹	CO ¹	SO ₂ ¹	PM ₁₀ ¹	PM _{2.5} ¹
Site Preparation (2024)	17	16	<0.1	5	3
Grading (2025)	24	25	<0.1	5	3
Grading (2026)	21	24	<0.1	5	3
CEQA Thresholds per SDAPCD	250	550	250	100	55
Significant Impact?	No	No	No	No	No

Table 4.1-5
Estimated Air Pollutant Emissions (Viking Ranch) (Unmitigated)

Source: Benchmark Resources 2023

1. Pounds (lbs) per day

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: Implement the following newly proposed mitigation measure:

Mitigation Measure 4.1-1a: The following standard mitigation measures for fugitive PM₁₀ control shall be implemented throughout project construction activities:

- a. All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.
- b. All on site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- c. All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- d. The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.
- e. All track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- f. Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at point of transfer with application of sufficient water, chemical stabilizers or by sheltering or

Notes:

enclosing the operation and transfer line.

g. The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

Mitigation Measure 4.1-1b: The following standard mitigation measures for construction combustion equipment shall be implemented throughout project construction activities:

- a. Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- b. Minimize idling time either by shuttling equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- c. Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- d. Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Level of Significance After Mitigation: Less than significant.

Old Kane Springs Road Preservation Site

The project does not propose any construction activities or regular use of the Old Kane Springs Road Preservation Site. Emission sources would be limited to infrequent maintenance truck trips and would result in negligible emission levels.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Impact 4.1-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations

Determination of whether project emissions would expose sensitive receptors to substantial pollutant concentrations is a function of assessing potential health risks. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. When evaluating whether a project 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.

Quarry, Well No. 3, and Associated Pipeline

The area surrounding the Quarry, well site, and proposed pipeline alignment is generally vacant, rural desert land with no sensitive receptors located within one mile of the project site. Thus, the project would not be expected to expose any sensitive receptors to substantial concentrations of pollutants. Regardless, the 2008 EIR/EIS assessed potential health risks associated with air emissions (see 2008 EIR/EIS Impacts 3.6-1

through 3.6-7). The 2008 EIR/EIS concluded that the project's estimated emissions would be below applicable ICAPCD significance thresholds and would be further reduced by existing regulations, such as CARB's comprehensive Diesel Reduction Plan, and by mitigation measures provided in the 2008 EIR/EIS, such as Mitigation Measures 3.6-1a through -1c.

As described previously, a comparison of the emission estimates presented in the 2008 EIR/EIS and the 2019 SEIS indicate that air quality regulations promulgated by the County SIPs since 2008 have reduced overall emissions from both stationary and mobile sources at the Quarry. Thus, the project would not result in any new impacts or worsen any existing impacts related to exposure of sensitive receivers to substantially pollutant concentrations.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Viking Ranch Restoration Site

The Viking Ranch Restoration Site is located at the edge of a small clustering of agricultural fields that is surrounded by open space of the Anza-Borrego Desert. There are no schools, hospitals, nursing homes or other known sensitive receptors within one half mile of the Viking Ranch Restoration Site. Within one mile, there are several small, isolated clusters of development among the surrounding agricultural fields to the west and south which may include some residences or farm worker housing. However, given that the project's estimated emissions would be below SDAPCD significance thresholds and their distance from the Viking Ranch site, these potential sensitive receptors would not be exposed to substantial pollutant concentrations.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Old Kane Springs Road Preservation Site

The Old Kane Springs Road Preservation Site would be preserved in its existing conditions. No construction or development is proposed at this site. Operation of the site would require only infrequent maintenance truck trips which were determined to generate negligible criteria air pollutants. This portion of the project would have no potential to expose sensitive receptors to substantial pollutant concentrations.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Impact 4.1-4: Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People

Project activities are not expected to introduce significant sources of odors. The project does not involve odor-generating sources aside from direct exhaust emissions associated with Quarry operations and restoration activities that generally dissipate rapidly into the atmosphere as distance increased from the source. Furthermore, ICAPCD has not adopted construction-related thresholds of significance for odors. ICAPCD's operational threshold of significance is five confirmed odor complaints per year average other three years. There have been no such complaints against the Quarry.

The ICAPCD CEQA Guidelines (2017) provide screening distance criteria for a variety of land uses that have the potential to generate odors, such as wastewater treatment facilities, landfills, composting stations, feedlots, asphalt plants, and rendering plants. The proposed project does not involve installation or operation of any of the land use categories that might be expected to generate odors.

The project's potential odor impacts are less than significant based on the nature of project activities, ICAPCD's odor screening criteria, and ICAPCD's record of complaints for the existing asphalt concrete plant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

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