Draft Initial Study/Mitigated Negative Declaration (IS/MND)

DRAFT Permanent Sealing of Orphan Wells in Kern County

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Geologic Energy Management Division

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LIST OF ACRONYMS

AB	Assembly Bill
API	American Petroleum Institute
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Geologic Energy Management Division
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CTR	California Toxics Rule
CWA	Clean Water Act
CWS	California Water Service
dB	Decibel
dBA	Decibels (A-Weighted)
DOC	California Department of Conservation
DPM	Diesel Particulate Matter

ES	Endangered Species
FESA	Federal Endangered Species Act
FTA	Federal Transit Administration
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
GSAs	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
KCWA	Kern County Water Agency
Leq	One-Hour Equivalent Noise Level
LHMP	Local Hazard Mitigation Plan
LSTs	Localized Significance Thresholds
MBGP	Metropolitan Bakersfield General Plan
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
P&A	Plug and Abandon
PM_{10}	Particulate Matter of 10 Microns or Less
$PM_{2.5}$	Particulate Matter of 2.5 Microns or Less
PPV	Peak Particle Velocity
PRC	California Public Resources Code
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
ROGs	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill

SDWA	Safe Drinking Water Act
SGMA	Sustainable Groundwater Management Act
SJVAB	San Joaquin Valley Air Basin
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency
USC	United States Code
USDW	Underground Sources of Drinking Water
USFWS	United States Fish and Wildlife Service
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WEAP	Worker Environmental Awareness Program

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

1.0 INTRODUCTION

The permanent sealing of Orphan Wells in Kern County (proposed Project, Project) involves the State of California's plugging and abandoning (permanent sealing) of eighteen (18) orphan wells in Kern County, California. One well is not within an oil field, while the rest are in the Fruitvale (12), Mountain View (3), Edison (1), and Semitropic (1) Oil Fields. Table 1-1 summarizes the wells. Figure 1-1 depicts the well locations from a regional context and Appendix A provides figures and maps for each location.

Table 1.0-1. List of Proposed Project Wells

#	API	Well Name	Oil Field
1	0402900895	Feeport 1	Mountain View
2	0402906781	E & H Dillion 1	Fruitvale
3	0402906811	Red Ribbon Lease 1-2	Fruitvale
4	0402906814	Red Ribbon Lease 1-5	Fruitvale
5	0402906816	Red Ribbon Lease 1-7	Fruitvale
6	0402908185	Red Ribbon Lease 2-1	Fruitvale
7	0402908186	Red Ribbon Lease 2-2	Fruitvale
8	0402908187	Red Ribbon Lease 2-3	Fruitvale
9	0402908188	Red Ribbon Lease 2-4	Fruitvale
10	0402908342	Dillion 2	Fruitvale
11	0402908439	Dillion 3	Fruitvale
12	0402908440	Dillon 4	Fruitvale
13	0402914306	Greer 1	Mountain View
14	0402946341	Fuller Acres 2	Mountain View
15	0402962133	Tenneco 1	Fruitvale
16	0402977006	T.S.A 14X	Edison
17	0403014846	EKHO 1	Semitropic
18	0403022490	Elk Ridge 1-20	Not in Oil Field

Figure 1-1. Regional Location

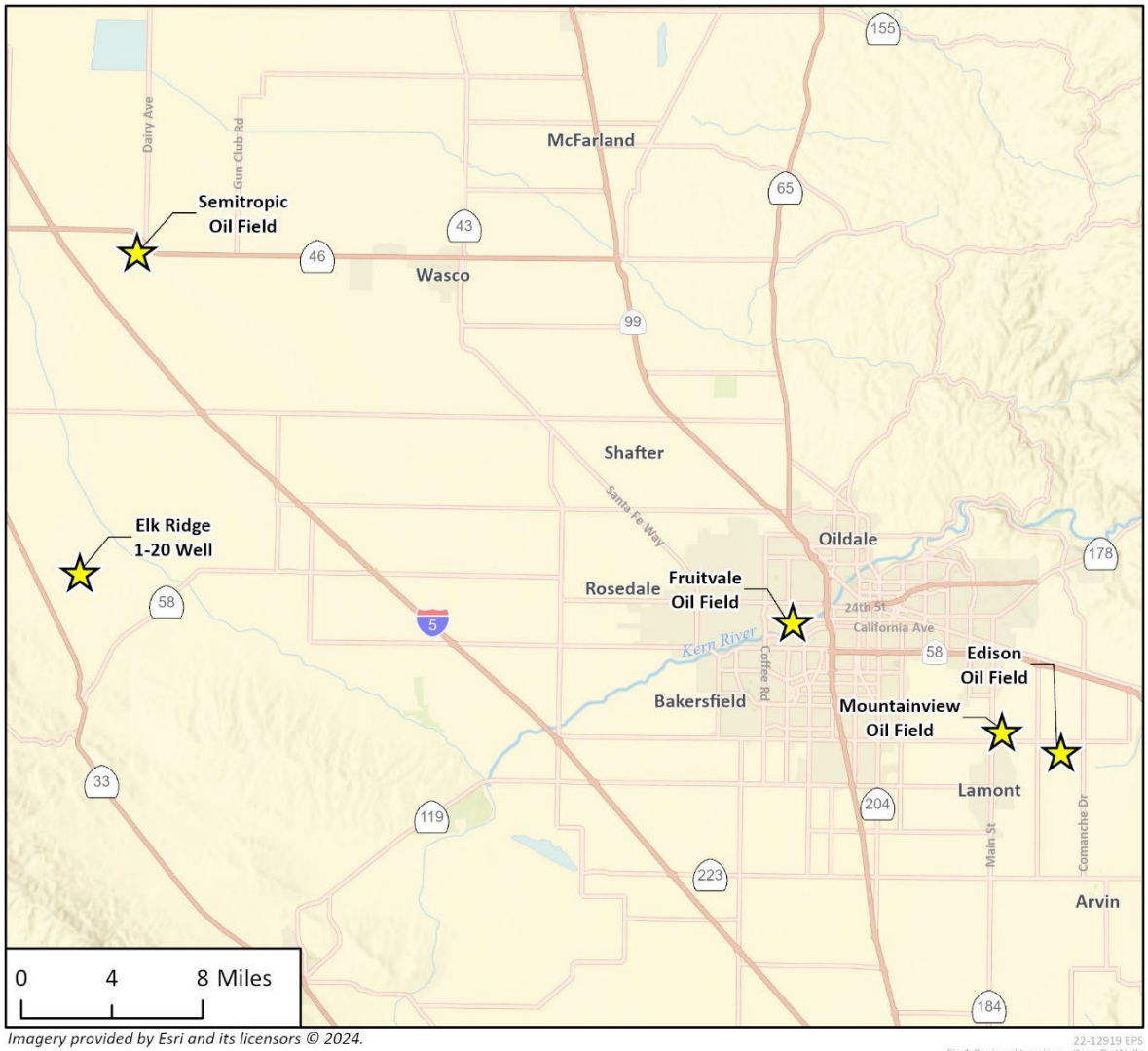

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Fig 1 Regional Location - Kern Co Wells

Project Location

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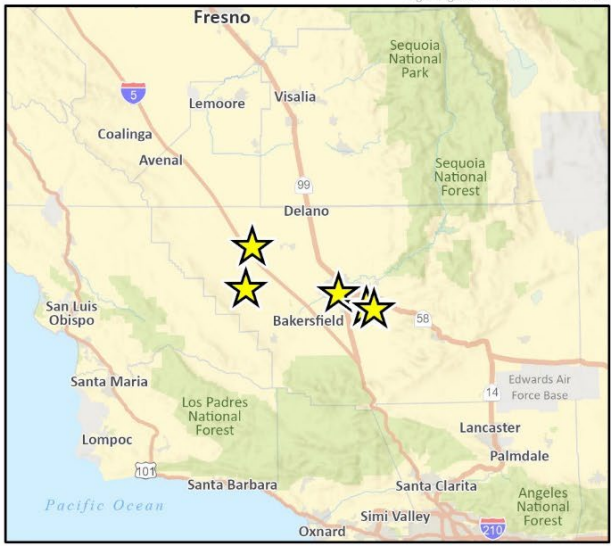

1.1 PROJECT NAME

Permanent Sealing of Orphan Wells in Kern County

1.2 LEAD AGENCY NAME AND ADDRESS

California Department of Conservation
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1.4 PROJECT PROPONENT NAME AND ADDRESS

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1.5 PROJECT DESCRIPTION AND PURPOSE

The proposed work involves the plugging, abandoning, and decommissioning of 18 wells, removal of tanks, aboveground pipelines, debris, and other Project-related facilities and equipment. For well permanent sealing, each well would be cleaned out and then plugged with cement and inert mud to the ground surface. Then, the well casing would be cut down to approximately five to 10 feet below ground level, and the site would be backfilled with soil up to ground level.

All activities would utilize existing roads and previously disturbed areas to the maximum extent feasible. Due to the locations of the well sites, the access and staging of equipment could have the potential for ground disturbance (see Section 2.0, *Project Description*). Therefore, CalGEM is preparing this Initial Study/Mitigated Negative Declaration (IS/MND) in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC], § 21000 et seq.) and the State CEQA Guidelines.

A site stabilization and/or lease restoration plan is proposed to ensure that that area is returned to natural conditions.

A detailed Project Description is provided in Section 2.0.

1.6 PROJECT LOCATION

The proposed work is located within Kern County. One well is not within an oil field, while the rest are in the Fruitvale (12), Mountain View (3), Edison (1), and Semitropic (1) Oil Fields. The Fruitvale Oil Field is located within the city limits of Bakersfield; the remaining wells are within unincorporated Kern County. The Project wells are located within Sections 3, 19, 20, 27, and 28, of Townships 27S, 29S, and 30S, Ranges 22E, 27E, and 29E, Mount Diablo Meridian. The wells are located within Assessor's Parcel Numbers 069-161-15, 099-290-07, 178-050-16, 178-202-05, 178-410-10, 332-260-01, 332-280-22, 332-280-28, and 368-040-09. Appendix A includes figures and maps displaying their respective project locations.

2.0 PROJECT DESCRIPTION

The proposed Project is generally comprised of three components, as follows:

2.1 PLUGGING AND PERMANENT SEALING

To plug and abandon (P&A) a well, temporary equipment such as pumps and return bins may be needed. There would not be any permanent facilities constructed, and no expansion of associated facilities would be required. Various mobile temporary equipment would be used as well as vehicles to transport personnel and materials to and from the site on established access roads. Table 2.1-1 provides a list of the standard equipment and operating time required to P&A a single well, particularly when complex well permanent sealing is not anticipated.

The wells are on previously constructed well pads composed of compressed soil. Many of the wells are within cemented cellars and there is often a concrete pad for the pumping unit (Appendix A). The permanent sealing rig and all associated equipment would be staged on the well pad or on the lease roads to minimize disturbance. Each well would take approximately 10 days to P&A.

Based on the conditions at the well locations, the plugging and abandoning work would require approximately 10,000 square feet per well to stage equipment and remove tanks and pipelines, or about 4.2 acres total for all wells. The creation of new ground disturbance would largely be avoided because the wells are in areas that have been previously disturbed by oil field activities. However, depending on the location and specific conditions at each well (such as vegetation overgrown immediately adjacent to well), vegetation around the wells (not to extend beyond the 10,000-square-foot work area) may need to be cleared to prevent fire hazards during the plugging and abandoning work.

Table 2.1-1. Typical Equipment Required for Plugging and Abandoning Activities

Equipment	No. of Units	BHP	No. Days Use per Well	No. of Hour Operated per Day	Total Hours Operated to Complete One Well Permanent sealing	Total Hours Operated to Complete All Permanent sealing
Workover rig (or coiled-tubing unit)	1	450	5	10	50	1050
Rig Generator	1	415	5	10	50	1050
Cement Truck/pump	1	400	4	3	12	252
Truck Mobilization	1	450	2	5	10	210
Bulk Truck (water)	2	400	2	3	12	252
Vacuum Truck	1	400	2	5	10	210
Truck (wire-line)	1	300	2	3	6	126
Crane	1	425	3	2	6	126
Backhoe	1	100	1	6	6	126
Utility Tractor	1	100	1	6	6	126
Compactor - optional	1	75	1	6	6	126

A mobile service rig and coil tubing unit would operate in tandem and be transported to the site to perform well permanent sealing. The mobile service rig would be used to pull inner well tubulars and "clean-out" (prepare) the wellbore, including "fishing" or pulling any stuck tubulars if required, and then move off to allow the coil tubing unit (and a cementing truck) to place cement plugs from the bottom of the wellbore to the top, ensuring hydrocarbon zones are isolated from any fresh water zones and wells are sealed as effectively as possible to prevent future leaks and protect health, safety, and the environment. While the rigs are on location until the abandoning work is complete, there would be periodic light vehicle traffic on the lease roads to and from the site to transport workers and equipment. Once plugging and abandoning activities are completed at a location, the well would be cut off five to 10 feet below the surface, capped, labeled, and the site would be backfilled.

Existing roads would be utilized to access each site. No new roads would be developed. Over the course of an approximately 10-day permanent sealing project for a single well, permanent sealing equipment is expected to mobilize and demobilize in 14 truck trips, while crew, support, and supervisors require approximately 78 employee trips for the same permanent sealing project.

2.2 DECOMMISSIONING FACILITIES

Decommissioning of attendant facilities involves removing deserted tanks, vessels, pipelines, containers, and backfilling sumps. These activities would be facilitated using mobile temporary equipment (see Table 2.3-1) to address oil and gas facility-associated components. The facilities are mostly set on a pad of compressed soil or gravel that have been maintained in fair condition until they were orphaned. All equipment would be staged on the facility pad or on the lease roads. If present, soil staining would be removed when feasible or left in-place and documented. If removed, a verification sample may be collected from the base of the native soil to confirm sufficient removal. Any removed soil would be transported to an on-site soil waste-bin or other United States Department of Transportation (DOT) approved container. Final soil conditions would be documented by the CalGEM contractor, reviewed by CalGEM, and presented in the Site Stabilization Plan. Soils marked for disposal would remain on site until sampled, characterized, and transported to an appropriately licensed disposal facility. Three cubic yards of oil-stained soil are expected to be removed per well and which includes soil impacted from well permanent sealing activities and facilities decommissioning.

2.3 DECOMMISSIONING PIPELINES

Sites with pipelines would have the aboveground pipelines removed in addition to the decommissioned facilities (as discussed in Subsection 2.2); and belowground pipelines would be cleaned and left in place.[1]

Belowground pipelines would have a cement slurry pumped into the pipeline at a constant pressure to displace any residual fluids and to solidify the pipeline, preventing any subsidence due to future pipeline degradation. Before the slurry is pumped into the pipeline, a vacuum truck would be connected to the exit end of the pipeline to capture any residual fluids that might be in the pipe that could be pushed out as the pipe is filling with the cement slurry. Once cement is present at the end of the pipeline, a blind flange would be placed at the exit end, and a visual inspection would occur to ensure the pipe has been sufficiently filled.

For aboveground pipelines, work would consist of first flushing the pipelines attendant to the oil and gas wells/facilities with an inert fluid and then pulling the

[1] Subsurface pipelines would be cleaned to remove any hydrocarbons. The subsurface piping would be filled with an inert substance (water or nitrogen) and a cap would then be welded on its end(s). The pipelines would have very little to no gas inside of them since they would be depressurized.

aboveground pipelines, cutting them into pieces, and then removing them from the site. Pipelines would be depressurized and drained prior to removal utilizing a vacuum truck and adequate secondary containment methods, including plastic sheeting, catch pans, and absorbent pads to ensure no soil contamination takes place. The flushed and purged oil and fluid that have exited the pipeline would be properly collected and disposed in baker tanks, vacuum trucks, or equivalent and removed from the site, in compliance with local, state, and federal requirements. All aboveground pipeline removal is limited in length and would not occur in any previously undisturbed areas.

Table 2.3-1 provides a list of the typical equipment that would be used during decommissioning.

Table 2.3-1. Typical Site Restoration and Facility Decommissioning Equipment that May be Utilized

Equipment	No. of Units	BHP	No. of Days Used	No. of Hours Operated per Day	Total Hours Operated to Complete Decommissioning
Pickup Truck	5	305	53	2	530
Track Skid Steer	1	75	53	8	424
4-CY Wheel Loader	1	250	22	8	176
20,000 Lbs. Excavator	1	75	15	8	120
80,000 Lbs. Excavator	2	310	40	8	640
2,000-gal. Water Truck	1	200	10	8	80
4,000-gal. Water Truck	1	350	70	10	700
Excavator W/ Sheer	1	310	28	8	224
Service Truck	1	445	53	2	106
Vacuum Truck	1	400	30	6	180
50KW Diesel Generator	1	66	70	10	700
Bulldozer	1	95	10	8	80

California Code of Regulations, Title 14, section 1776 requires auxiliary holes, such as rat holes, to be filled with earth and compacted properly; all construction materials, cellars, production pads, and piers would be removed and the resulting excavations filled with earth and compacted properly to prevent settling; well locations within pads will be graded and cleared of equipment, trash, or other waste materials.

All waste, including sanitary items, rubbish, debris, and other discarded materials, would be carefully managed and regularly removed in accordance with federal, state, and local regulations for proper handling, storage, and disposal to prevent spills or contamination. Fuels and lubricants would only be stored in designated areas. Refueling would take place within a berm in designated areas. Oil spill response kit and spill response equipment would be located on site and on-vehicle. Enough supply of sorbent and barrier materials would be available to contain any runoff from contaminated areas. Hot work would be performed on designated areas under a hot work program that would ensure proper training, monitoring and water is available to reduce the potential for fires and other hot-work related issues.

Additionally, any excess concrete at a given well location would be broken down and taken to a recycling facility.

Hazardous materials would be removed and disposed of in accordance with both state and federal guidelines. There would be sampling and running fluid analysis on unknown fluids remaining in tanks, sumps and other containers, as directed, to categorize their contents as hazardous or nonhazardous as defined in Section 25117, Division 20, Chapter 6.5, of the California Health and Safety Code. State licensed transporter(s) would be responsible for safely moving and disposing of waste in designated areas, ensuring compliance with all waste disposal regulations at the federal, state, and local levels.

2.4 BEST MANAGEMENT PRACTICES

CalGEM is committed to preventing or minimizing any potential impact(s) on the environment arising from the proposed project. This commitment includes implementing best management practices (BMP) such as conducting biological surveys for presence of endangered species, applying protective measures and developing contingency plans to safeguard the safety and well-being of the public and the environment throughout the project's lifespan.

a. Pre-Disturbance Biological Survey. The wells proposed for plugging and permanent sealing are in oil fields that fall within state or federal endangered species areas, identified through the California Natural Diversity Database (CNDDB) search by oil field, conducted in June 2022 by CalGEM and in November 2024 by Rincon. A 5-mile radius was used for areas with small field boundaries.

A comprehensive biological survey will be conducted on site to ascertain the presence of any endangered species. The survey will assess the expected

work area, including the structural debris field, areas proximate to the project site, access routes, expected parking areas, and expected water crossings. The biological survey will determine:

I. If any specific biological concerns exist on the site;

II. If any Best Management Practices are applicable to the site, or whether any BMPs are needed;

III. Whether biological monitoring is needed during plugging and abandoning and site restoration activities.

b. Protective Measures. Following biological survey of the area, CalGEM and its contractor will collaborate with California Fish and Wildlife (CDFW) to prepare avoidance measures in the event that endangered species are observed in the area. These measures aim to ensure unlikely adverse effects on existing endangered species do not occur. CalGEM will require strict adherence to these practices during the project:

1. The majority of plugging and abandoning activities will use existing pads, lease roads or areas already disturbed. The work will focus on the previously built well and facility pads. Staging areas will be set up on these pads, roads, or other pre-disturbed locations. After the well and facility are removed, the footprints on existing disturbed areas (pads, roads, etc.) will be leveled.

2. No more than three months prior to moving a rig, excavator, bins, and other heavy equipment to a well or facility location, a Qualified Biologist will conduct a biological survey for Endangered Species to examine the portions to be disturbed. The survey will provide 100 percent coverage of the well pad or facility pad that is being used. The biologist will flag all potential endangered species areas. Where feasible, an avoidance buffer of 50 feet or greater around this flagged area will be maintained. Prior to biological surveys, informal discussions with CDFW will be conducted to ensure proper protocols are utilized and procedures followed.

3. Before starting any work, all individuals involved or working there will undergo an awareness education program. This program will include a presentation by a biologist who is knowledgeable about the life cycles and habitats of potential Endangered Species.

4. If an endangered species is unexpectedly encountered during project activities, all potentially harmful work to the ES will stop immediately until the species leaves the area on its own. United States Fish and Wildlife Service (USFWS) and CDFW will be promptly notified. A Qualified Biologist will be sent to collaborate with the relevant agencies on mitigation efforts.
5. Work is scheduled for daylight hours, typically between 7:00 a.m. and 5:00 p.m., though work can occur as early as 4:00 a.m. during times of high heat index. In an emergency situation or for operational safety purposes to prevent well failure during permanent sealing, nighttime work may occur but is not anticipated. If nighttime work is required due to an emergency, and the site is close to public areas, precautions will be taken to reduce noise and light disturbances. This may include enclosing the work area with tape or fencing. The site will be well illuminated, and all vehicles will operate at speeds of 5 mph or less during emergency nighttime hours. Any local municipal codes will be followed.
6. Two wellsite locations (Feeport 1 and Greer 1) are within 100 feet and 300 feet, respectively, to residential structures. At these locations a decibel meter will be utilized to monitor noise levels near the site boundaries. Noise levels will be recorded and monitored throughout the permanent sealing process. Fuller Acres 2 is approximately 500 feet from a residential neighborhood and noise monitoring is not expected at this distance. All other permanent sealing operations will be greater than 1,000 feet away from residences or business and noise is not a concern. If recorded noise levels exceed local ordinance requirements, stop work may be implemented to determine the best path forward to ensure noise mitigation. Examples of noise mitigation engineering controls may include straw bales and/or sound barriers or curtains of appropriate height.
7. Site equipment may contain asbestos or fluids/sludges. An asbestos assessment and sampling of any fluids or sludges in tanks/vessels will be conducted prior to decommissioning equipment and disposal of any contents will be conducted in compliance with state law.
8. Tribal Consultation will be conducted for all sites.

While unexpected, other potential risks to the public arising from this work include the generation of air pollution during intrusive procedures, as well as noise and other physical hazards, unanticipated roadblocks or closures, waste materials, and the potential for damage to public utilities. The protocols implemented to address any prospective hazards to the community are:

1. **Air Contaminants:** Visual monitoring of air quality will be conducted throughout the duration of activities. In the event that dust levels exceed the stipulated requirements of the Air Pollution Control District (APCD)/Air Quality Management District (AQMD) and are observed emanating from the work area, operations will be promptly halted, and measures to suppress dust will be expeditiously enacted including the use of water trucks.
2. **Limiting Access:** Whenever work activities are being executed in close proximity to the public, the designated work zone will be enclosed by tape or fencing. These measures will serve to demarcate the field teams from the public.
3. **Stockpiles:** All soil stockpiles will be managed in rigorous adherence to the approved, Project-specific waste management plan. They will be meticulously positioned atop plastic sheeting and securely anchored by additional layers of plastic sheeting on top of the soils during periods of inactivity. Only the actively utilized face of the soil stockpile will be exposed during periods of active work. The waste will be systematically partitioned and secured to prevent public access.

c. Health and Safety Plan/Emergency Response Plan. A site-specific Health and Safety Plan will be developed following the guidelines set forth in the California Code of Regulations (CCR), Title 8, section 5192 and CalGEM guidance. This plan will encompass a comprehensive set of measures, including contingency plans, to ensure the safety and well-being of the public and the environment during field operations. This will involve delivering an emergency response plan, outlining procedures for notification, immediate action, and reporting in the event of an emergency during State permanent sealing work.

1. Before commencing any site work, a thorough job hazard analysis will be conducted to identify potential risks and hazards throughout the project's duration. These may include scenarios like blowouts, fires, serious accidents, as well as gas and water leaks. As part of this analysis, a certified Health and Safety Officer will be identified. This officer will be

responsible for conducting in-person audits of the sites every two weeks. They will then submit a written report to the Division, outlining the identified risks and their corresponding measures throughout the project's duration.

2. Preparing a Project-specific Emergency Response Plan that covers the following:
    a) Identify all relevant government agencies (federal, state, and local) having jurisdiction over the Project in case of an emergency, including potential emergency situations;
    b) Outline notification and response processes, and identify roles and responsibilities;
    c) Describe the training provided to ensure the Emergency Response Plan is effectively implemented, including any required certifications;
    d) Outline procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to people, property, or the environment;
    e) Identify evacuation plans and procedures, including immediate notice, for all Project site(s);
    f) Include spill contingency planning developed in accordance with CCR, Title 14 Section 1722.9.
3. Conducting emergency response trainings and drills prior to initiation of work and at the beginning of each subsequent month until the Project work is complete.
4. Conducting safety meeting with all crew members. Topics include safe driving protocols, emergency driving procedures in case of an accident, and evacuation procedures in case of a natural disaster.
5. Updating the Emergency Response Plan and/or Spill Contingency Plan if any issues are identified during the emergency response drill and must have CalGEM approve the updated plan prior to implementation.
6. In the event of an emergency or incident, the California Governor's Office of Emergency Services, CalGEM, and other agencies will be notified, consistent with state requirements and the release reporting matrix:

https://www.caloes.ca.gov/FireRescueSite/Documents/Release%20Reporting%20Matrix.pdf. In the event the permanent sealing is on Bureau of Land Management land, the appropriate Bureau of Land Management representative will be notified of the emergency as well.

7. Any discharge or threatened discharge of oil into waters of the state will be immediately reported and proceed with spill response activities consistent with the State Oil Spill Contingency Plan, incorporated references and attachments, and other applicable federal, state or local spill response plans. The State Oil Spill Contingency Plan can be found here: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=172767&inline
8. Incident and spill response activities will be managed utilizing the Incident Command Structure in accordance with the Incident Management Handbook [https://www.atlanticarea.uscg.mil/Portals/7/Ninth%20District/Documents/USCG_IMH_2014_COMDTPUB_P3120.17B.pdf?ver=2017-06-14-122531-930]
9. In the event of an emergency or incident that arises due to the work, CalGEM, with the assistance of the plugging and abandoning contractor (Contractor), will manage the incident as the responsible acting party consistent with state requirements and the Project-specific Emergency Response Plan. The Contractor will cooperate with federal, state, and local government officials to develop a unified command structure for emergency response, if that becomes necessary.

d. Fire Response Planning. The Applicant shall ensure that fire response capabilities are in place during the entire Project, including the following:

1. Cutting and welding shall comply with California Fire Code 3305.6 and National Fire Protection Association 51B;
2. Fire Watch shall conform to California Fire Code 3305.5;
3. Fire extinguishers are required in accordance with California Fire Code 3316 and 906;
4. All construction equipment used for any vegetation clearing shall be equipped with spark arrestors, and monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire.

2.5 APPLICABLE AGENCY REQUIREMENTS

This Project includes activities in the City of Bakersfield jurisdiction as well as within Kern County.

The Kern County Municipal Code (section 8.36.020) indicates that it is prohibited to "*Create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling..*"

In accordance with these requirements operations would be typically performed between 7:00 a.m. and 5:00 p.m. Hours could be performed as early as 4:00 a.m. to comply with CalOSHA requirements if the heat index becomes a concern. In this case, sound mitigations would be utilized and/or work hours will be restricted to ensure regulatory compliance.

2.5.1 Project Approvals and Permits Under CEQA

CalGEM must adopt this IS/MND as the lead agency pursuant to CEQA before and if it decides to approve the project.

Additionally, the following permits, reviews, consultations, and approvals would be required to be completed or approved prior to the commencement of the Project (refer to Table 2.5-1).

Table 2.5-1. Project Approvals and Permits

Level	Agency	Permit/Approval
Federal	United States Bureau of Land Management	Sundry Notice for wells located within Federal leases
State	California Department of Conservation, Geologic Energy Management Division (CalGEM)	Well permitting
State	California Department of Fish and Wildlife (CDFW)	Biological species oversight/permits
State	State Water Resources Control Board in Coordination with CalGEM	General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002
Local	Kern County Fire Department	Well permitting and hotwork
Local	Kern County Planning and Natural Resources Department	Grading permit

Level	Agency	Permit/Approval
Local	San Joaquin Valley Air Pollution Control District	Authority to Construct Permits Current Permit to Operate

3.0 SUMMARY OF FINDINGS

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This Project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Potentially Significant Unless Mitigation Incorporated" as indicated by the checklist on the following pages.

Table 3-1. Environmental Issues and Potentially Significant Impacts

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

3.2 ENVIRONMENTAL DETERMINATION

☐ On the basis of this initial evaluation: I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on

attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

_____	_____
Signature	*Date*
_____	_____
Printed Name	*Agency*

4.0 ENVIRONMENTAL ANALYSIS AND INITIAL STUDY CHECKLIST

The evaluation of environmental impacts provided in this Initial Study is based in part on the impact questions contained in Appendix G of the State CEQA Guidelines; these questions, which are included in an impact assessment matrix for each environmental category (Aesthetics, Agriculture/Forestry Resources, Air Quality, Biological Resources, etc.), are "intended to encourage thoughtful assessment of impacts." Each question is followed by a check-marked box with column headings that are defined below.

Potentially Significant Impact. This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more "Potentially Significant Impacts," a Project Environmental Impact Report would be prepared.

Less than Significant with Mitigation. This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures (MMs) would reduce the identified effect(s) to a less than significant level.

Less than Significant Impact. This column is checked when the Project would not result in any significant effects. The Project's impact is less than significant even without the incorporation of Project-specific MMs.

No Impact. This column is checked when the category does not apply.

Detailed descriptions and analyses of impacts from Project activities and the basis for significance determinations are provided for each environmental factor on the following pages.

4.1 AESTHETICS

AESTHETICS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

4.1.1 Environmental Setting

All but one well are in private oil fields located within Kern County on relatively flat terrain which provide open views for the public. The nearest state scenic highways to the oil fields are State Route (SR) 14 (Eligible not Officially Designated) and SR 166 (Eligible not Officially Designated). SR 14 is located approximately 47 miles west of the Mountain View Oil Field and Edison Oil Field, and approximately 62 miles west of the Fruitvale Oil Field (California Department of Transportation [Caltrans] 2024). SR 166 is located approximately 46 miles south of the Semitropic Oil Field and 31 miles south of the Elk Ridge 1-20 Well.

4.1.2 Regulatory Setting

There are no federal or state regulations, laws, or policies pertaining to aesthetics relevant to the proposed Project. Local regulations, laws, and policies pertaining to aesthetics relevant to the Project are included below.

4.1.2.1 Local

Kern County General Plan (2009). The Kern County General Plan Land Use, Open Space, and Conservation Element identifies scenic areas in Kern County as Oak woodlands and larger oaks enhancing scenic values (Kern County 2009).

Kern County Municipal Code Section 19-81-050. Kern County Municipal Code Section 19.81.050 requires lighting and illumination to be confined to the premises where work is conducted.

Metropolitan Bakersfield General Plan: The Metropolitan Bakersfield General Plan (MBGP) identifies regional parks with scenic vistas and presents the policy to design resource extraction operations subject to discretionary permits to maintain the integrity of areas of "high environmental quality" and unique scenic value.

4.1.3 Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

Less than Significant. The wells are located within open space used for the managed production of oil resources as defined by Kern County General Plan (Kern County 2009). All wells, with the exception of Feeport 1 and Greer 1, are located in relativity flat areas surrounded by vacant land or infrastructure related to oil production. The proposed Project would not develop any new structures and would not result in any additions to the wells which could result in visual obstructions to the foothills. Although the well sites are not visible to the public, use of a 20-meter-tall workover rig may be visible to residential communities near Feeport 1 and Greer 1 during the temporary P&A activities lasting approximately 10 days. While the workover rig may result in partial obstruction of views of the flatlands; however, following permanent sealing, and decommissioning activities, no long-term obstructions would occur beyond existing conditions. Therefore, the proposed Project would have a less than significant impact on scenic vistas.

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

No Impact. There are no Designated state scenic highways in the Project vicinity. Due to the distances between all wells to the nearest Eligible highways, SR 14 and SR 166, varying topography, and intervening structures preclude views of any of the well sites. The proposed Project would not require the removal of existing trees or rock outcroppings, and there are no historic buildings located at any of the well sites. Therefore, the proposed Project would not substantially damage scenic resources within a state scenic highway. No impact would occur.

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

Less than Significant. The Elk-Ridge 1-20 well, Edison Oil Field, Mountain View Oil Field, and Semitropic Oil Field are within areas classified as non-urbanized. Consequently, this analysis examines the potential for proposed Project activities at these oil fields to substantially degrade the existing visual character or quality of public views of the site and its surroundings. The wells are located adjacent to existing oil well infrastructure and the Project involves the permanent sealing and decommissioning of the associated facilities and pipelines. This would involve minimal changes to the existing visuals of each Project site and would not introduce visually incompatible uses because no new development is proposed. The use of a 20-meter-tall workover rig may be visible during the temporary activities lasting up to approximately 10 days at each site. Once completed, the well sites would be backfilled with soil. This would ensure the well sites would be visually compatible with the surrounding terrain and ground surface

The Fruitvale Oil Field is within an incorporated city.[2] Pursuant to Public Resources Code (PRC) Section 21071, an incorporated city with a population of at least 100,000 people meets the criteria for an urbanized area. The City of Bakersfield has a population of approximately 411,109 people and is considered an urbanized area under CEQA (California Department of Finance 2024). Therefore, this analysis examines the potential for proposed Project activities at the Fruitvale Oil Field to conflict with applicable zoning and other regulations governing scenic quality. Pursuant to Bakersfield Municipal Code, Chapter

[2] PRC Section 21071 defines an unincorporated area as an "Urbanized area" when the area is completely surrounded by one or more incorporated cities, or located within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile.

17.90.020, the wells are zoned General Manufacturing (M-2) which permits activities related to, petroleum refining, and permanent sealing, and decommissioning activities. Therefore, the proposed Project is consistent with allowed activities in the M-2 Zone, and the Project would not conflict with applicable zoning and other regulations governing scenic quality. This impact would be less than significant.

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

Less than Significant. The proposed Project would not involve reflective surfaces/components which have the potential to cause glare. As described in Section 2.4, *Best Management Practices*, permanent sealing, and decommissioning activities are scheduled during daylight hours; however, work may occur as early as 4:00 a.m. during periods of high heat index. In the unlikely event nighttime work is required for emergency situations or operational safety purposes, all temporary lighting would be shielded and focused downward on work areas. Because nighttime lighting is not anticipated and in the event nighttime lighting is required, BMPs to reduce lighting would be implemented, the proposed Project would have a less than significant impact related to creating substantial light or glare.

4.1.4 Mitigation Measures

The Project would not result in significant impacts on aesthetics; therefore, no mitigation is required.

4.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Project of the California Natural Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 Environmental Setting

None of the wells are located in a reporting Williamson Act contract area (Kern County 2009, City of Bakersfield 2002), nor are they located in areas designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (California Department of Conservation [DOC] 2023a, 2023b). The wells are not located on land with forests or in areas designated as timberland or timberland zoned Timberland Production.

4.2.2 Regulatory Setting

There are no federal or state regulations, laws or policies pertaining to agriculture and forestry that are applicable to the proposed Project. Local regulations, laws, and policies pertaining to agriculture and forestry resources relevant to the Project are included below.

4.2.2.1 Local

Kern County General Plan (2009). The Land Use Element includes a goal to promote the wise management of agricultural resources in order to protect these resources for existing and future needs.

> **Goal 2.** Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Metropolitan Bakersfield General Plan. The MBGP includes Chapter V Conservation / Soils and Agriculture and aims to Protect prime agricultural lands against unplanned urban development by adopting agricultural zoning, agricultural land use designations, and by encouraging use of the Williamson Act and the Farmland Security Zone Program and policies that provide tax and economic incentives to ensure the long-term retention of agricultural lands.

4.2.3 Impact Analysis

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

No Impact. According to the DOC, the well sites are designated as Other Land, Vacant or Disturbed Land, or Grazing Land under the Farmland Mapping and Monitoring Program. The well sites are not within lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2023a). Therefore, there would be no impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Feeport 1, T.S.A 14X, EKHO 1, and Elk ridge 1-20 wells are located within unincorporated Kern County and zoned Exclusive Agriculture (A). Pursuant to Sec. 19.12.020 of the Kern County Municipal Code, resource extraction and energy development uses (including, but limited to oil and gas exploration, production and permanent sealing) are permitted in A zoning.

Therefore, the plugging and abandoning activities proposed at these well sites would be consistent with existing zoning.

Greer 1 and Fuller Acres 2 wells are zoned of the following combining districts: Estate (E), Mobile Home (MH) and Petroleum Extraction (PE). Pursuant to Sec. 19.16.020 of the Kern County Municipal Code, resource extraction and energy development uses (including, but limited to: oil and gas exploration, production, and permanent sealing) are permitted in PE zoning.

Wells E&H Dilion 1, Dilion 2, Dilion 3, Dilion 4, and Tenneco 1 are located within unincorporated Kern County and are zoned Heavy Industrial, Precise Development Combining (M-3 PD). These zoning districts are not for agriculture.

The Reb Ribbon Lease wells are located within the City of Bakersfield and are zoned General Manufacturing (M-2). Pursuant to Bakersfield Municipal code, Chapter 17.90.020, petroleum refining, reclaiming plants, and related manufacturing uses are permitted within this designation. This zoning designation is not for agriculture.

All wells are within zones that are either non-agricultural or permit activities such as oil drilling, production of oil, gas and other hydrocarbon substances, and well permanent sealing. None of the well sites are located within parcels subject to active Williamson Act contracts. Therefore, no impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?

No Impact. The wells are not located on land with forests or areas designated as timberland or timberland zoned Timberland Production. Therefore, no impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The wells are not located on land with forests or areas designated as timberland or timberland zoned Timberland Production. The Project would not involve the conversion of forest land to non-forest use. Therefore, no impact would occur.

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

No Impact. The proposed Project would not require the conversion of the agricultural land to non-agricultural use. The proposed work involves the removal of tanks, aboveground pipelines, debris, and other Project-related facilities and equipment. Post completion, the disturbed areas utilized for all temporary activities (site access, P&A and decommissioning, and equipment staging) would undergo restoration to align with the landscape of the surrounding environment, such as backfilling the wells. No impact would occur.

4.2.4 Mitigation Measures

The Project would not result in significant impacts to agriculture and forestry resources; therefore, no mitigation is required.

4.3 AIR QUALITY

AIR QUALITY - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Environmental Setting

The Project site is located in the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). As the local air quality management agency, the SJVAPCD is required to monitor air pollutant levels to ensure that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the SJVAB is classified as being in "attainment" or "nonattainment." In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants, presented in Table 4.3-1, are already occurring in that area as part of the environmental baseline condition.

Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SJVAB is designated as a nonattainment area for the state one-hour ozone standard as

well as for the federal and state eight-hour ozone standards. The SJVAB is also designated as nonattainment for the state annual arithmetic mean and federal 24-hour $PM_{2.5}$ standards as well as the state 24-hour and annual arithmetic mean PM_{10} standards. The nonattainment statuses of the SJVAB are the result of several factors, such as increased population and unique topographical and meteorological conditions that exacerbate the formation and retention of high levels of air pollution in the SJVAB. The SJVAB is unclassified or in attainment for all other ambient air quality standards (SJVAPCD 2024a).

Table 4.3-1. Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: pulmonary function decrements and localized lung edema in humans and animals, and risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM_{10} and $PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma).

Source: USEPA 2024.

4.3.1.1 Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the NAAQS and the CAAQS for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gases (ROG),[3] nitrogen oxides (NO_X), particulate matter with diameters of ten

[3] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS/MND.

microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone (O_3), which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO_X. Secondary pollutants include oxidants, O_3, and sulfate and nitrate particulates (smog). Air pollutants can be generated by the natural environment, such as when high winds suspend fine dust particles.

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

4.3.2 Regulatory Setting

4.3.2.1 Air Quality Management

The SJVAB is currently designated nonattainment for the ozone and $PM_{2.5}$ NAAQS. The SJVAPCD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS. The SJVAPCD 2022 Ozone Plan and 2024 $PM_{2.5}$ Plan include emissions inventories that identify sources of air pollutants, evaluations for feasibility of implementing potential opportunities to reduce emissions, sophisticated computer modeling to estimate future levels of pollution, and a strategy for how air pollution will be further reduced. The plans also include innovative alternative strategies for accelerating attainment through non-regulatory measures. The 2022 Ozone Plan determines that, with implementation of the proposed control strategy, the SJVAB can expect to reach attainment of the 2015 eight-hour ozone NAAQS by the year 2037 (SJVAPCD 2022). On January 28, 2022, USEPA determined that the SJVAB attained the 1997 24-hour $PM_{2.5}$ standard of 65 micrograms per cubic meter ($\mu g/m^3$) by the attainment date of

December 31, 2020. The 2024 $PM_{2.5}$ Plan estimates that the majority of the San Joaquin Valley population is currently in attainment of the 2012 standard, 90 percent will be in attainment by 2027, and 100 percent will be in attainment by 2030 (SJVAPCD 2024b).

4.3.2.2 Air Emission Thresholds

The SJVAPCD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (SJVAPCD 2015). SJVAPCD recommends the use of quantitative thresholds to determine the significance of construction-and operational related emissions of criteria air pollutant emissions. SJVAPCD has two sets of significance thresholds for operational emissions depending on whether the activities are for permitted equipment and activities or non-permitted equipment and activities. Project operation does not include permitted equipment or activities such as the use of back-up generators. Therefore, only the operational thresholds for non-permitted equipment and activities and construction activities are appropriate for evaluating project impacts. These thresholds are shown in Table 4.3-2.

Table 4.3-2. SJVAPCD Air Quality Thresholds of Significance – Criteria Pollutants

Pollutant	Construction (tons per year)	Operation (tons per year)
NO_x	10	10
ROG	10	10
PM_{10}	15	15
$PM_{2.5}$	15	15
SO_x	27	27
CO	100	100

Notes: NO_x = Nitrogen Oxides; ROG = Reactive Organic Gases; PM_{10} = Particulate Matter with a diameter no more than 10 microns; $PM_{2.5}$ = Particulate Matter with a diameter no more than 2.5 microns; SO_x = Sulfur Oxide; CO = Carbon Monoxide.

Source: SJVAPCD 2015.

In addition to the annual SJVAPCD thresholds, SJVAPCD has published the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance, which is summarized in Section 8.4.2, *Ambient Air Quality Screening Tools*, of SJVAPCD's *GAMAQI*, adopted in March 2015. The *Ambient Air Quality Screening Tools* guidance provides a screening threshold of 100 pounds per day of any of the following pollutants: NO_X, ROG, PM_{10}, $PM_{2.5}$, SO_X, and CO. The screening threshold

was used to evaluate construction activities and operational activities separately. Per SJVAPCD's *GAMAQI*, when assessing the significance of project-related impacts on local air quality, the impacts *may* be significant if on-site emissions from construction or operational activities exceed the 100 pounds per day screening level after implementation of all enforceable mitigation measures. If the screening threshold is exceeded for any pollutant, an ambient air quality assessment (AAQA) is conducted following District Rule 2201 *AAQA Modeling* for any phase that has an exceedance. An AAQA uses air dispersion modeling to determine if emission increases from a project's construction or operational activities would cause or contribute to a violation of the ambient air quality.

SJVAPCD recommends comparing project's attributes with the following screening criteria as a first step to evaluating whether the Project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The Project would result in a less than significant impact to localized CO concentrations if (SJVAPCD 2015):

1. A traffic study for the Project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the Project vicinity will be reduced to LOS E or F; or
2. A traffic study indicates that the Project will substantially worsen an already existing LOS F on one or more streets at more one or more intersections in the Project vicinity.

However, SB 743, which was signed into law in 2013, initiated an update to the CEQA Guidelines to change how lead agencies evaluate transportation impacts under CEQA. As of July 2020, LOS is no longer considered an ideal metric for evaluating transportation impacts. Therefore, for the purposes of this analysis, impacts related to localized CO concentrations are discussed qualitatively.

SJVAPCD also recommends quantitative thresholds for evaluating a project's air quality impacts related to toxic air contaminants (TACs). Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SJVAPCD recommends a carcinogenic (cancer) risk threshold of 20 in a million. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. SJVAPCD recommends a Chronic Hazard Index significance threshold of 1.0 and an Acute Hazard Index of 1.0.

4.3.3 Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant. The permanent sealing and decommissioning activities would require heavy equipment use, thereby resulting in emissions of criteria pollutants including ozone precursors, such as ROG and NOX, as well as particulate matter. SJVAPCD has prepared several air quality attainments plans to achieve ozone and particulate matter standards, the most recent of which include the 2022 Plan for the 2015 8-Hour Ozone Standard and the 2024 Plan for the 2012 $PM_{2.5}$ Standards. The SJVAB is in attainment for carbon monoxide, sulfur dioxide, and lead; therefore, SJVAPCD has not developed attainment plans for these pollutants. SJVAPCD has determined that projects with emissions above the thresholds of significance for criteria pollutants would conflict with and obstruct implementation of the SJVAPCD's air quality plans (SJVAPCD 2015). As discussed under Threshold 4.3(b), the Project would not exceed the SJVAPCD's significance thresholds for criteria air pollutant emissions. Therefore, the Project would not conflict with applicable air plans, and impacts would be less than significant.

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?

Less than Significant. The permanent sealing and decommissioning activities would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and vehicles. Table 4.3-3 summarizes the estimated maximum daily criteria air pollutant emissions associated with Project activities. The activities include the application of pre-watering and disturbed area watering. As shown therein, criteria air pollutant emissions generated by permanent sealing and decommissioning activities would not exceed SJVAPCD thresholds and would not result in a cumulatively considerable net increase of any criteria pollutant for which the Basin is designated non-attainment. Furthermore, the Project would not require new operations or maintenance activities upon completion of temporary permanent sealing and decommissioning activities. Therefore, no Project emissions would be generated beyond the conclusion of Project activities. This impact would be less than significant.

Table 4.3-3. Annual Construction Emissions

Pollutant	Annual Construction Emissions (tons per year)	Significance Threshold	Significant Impact?
ROG	1	10	No
NO_x	7	10	No
CO	7	100	No
SO_x	<1	27	No
PM_{10}	<1	15	No
$PM_{2.5}$	<1	15	No

Note: See Appendix B for CalEEMod worksheets.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant. The nearest sensitive receptors to the Feeport 1 well site are single-family residences located approximately 100 feet east. As discussed in Section 4.17, *Transportation*, under Threshold 4.17(b), the Project would not result in an increase of operational vehicle trips. Therefore, the Project would not emit the levels of CO necessary to result in a localized hot spot.

The Project does not include any stationary sources of air pollutant emissions, and once permanent sealing and decommissioning activities are complete, the Project would not require additional operation and maintenance activities. Therefore, following the conclusion of Project activities, the Project would not expose sensitive receptors to substantial pollutant concentrations. The following analyzes the potential for the Project to expose receptors to substantial TAC emissions.

Toxic Air Contaminants

As described in Section 4.3.2.2, *Air Emissions Thresholds*, TAC emissions associated with the Project can be attributed to DPM from diesel-fueled engines. DPM is primarily composed of PM_{10} and $PM_{2.5}$ emissions (CARB 2024). Generation of DPM from construction projects typically occurs in a single area for a short period of time. The permanent sealing and decommissioning activities would occur for approximately 10 days per well and 180 days total, respectively (see Table 2.3-1 for equipment duration). The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the

concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time.

CalGEM has conducted health risk assessments for drilling and construction activities utilizing point sources and the HARP2 model. This analysis indicates that emissions of DPM less than 100 pounds per year for a duration of less than one year would not produce cancer impacts exceeding 10 in a million at the closest receptor (Appendix B). As this Project would not generate more than 10 pounds in total and the duration would be less than one year, the health risk impacts are less than significant. Furthermore, construction activities would also be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five minutes, which would further reduce nearby workers exposure to temporary and variable DPM emissions. Compliance with the standard construction measures required by SJVAPCD would also further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. As such, Project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

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

Less than Significant. Construction equipment could generate odors during permanent sealing and decommissioning activities. Such odors would be temporary in nature and limited to approximately 10 days in the vicinity of each well site. The nearest sensitive receptors to the Feeport 1 well site are single-family residences located approximately 100 feet east. At this distance, sensitive receptors would not be able to detect temporary Project odors. Following permanent sealing and decommissioning activities, the Project would not generate odors. Therefore, the Project would not result in odors adversely affecting a substantial number of people and his impact would be less than significant.

4.3.4 Mitigation Measures

The Project would not result in significant air quality impacts; therefore, no mitigation is required.

4.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other	☐	☐	☐	☒

BIOLOGICAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
approved local, regional, or State habitat conservation plan?				

4.4.1 Environmental Setting

The well sites are located within Kern County and the City of Bakersfield. All sites consist of oil and gas development with patches of non-native habitat. There are no riparian or wetland features present at any of the well sites.

Rincon conducted a desktop analysis to identify any special-status flora and fauna that have been documented and may be present within or surrounding the well sites. A 5-mile query of each of the 18 well sites was conducted using the CDFW CNDDB), California Native Plant Society (CNPS) Rare Plant Inventory List, USFWS Information for Planning and Consultation tool, and USFWS Critical Habitat Report (CNPS 2024, USFWS 2024a, 2025b). Additionally, Biological Assessments prepared for CalGEM that are relevant to the well sites were reviewed. Specifically, a Biological Assessment that included the Fuller Acres 2, Freeport 1, Greer 1, and T.S.A 14X well sites (Sapphos Environmental 2024a) and a Biological Assessment that included well sites approximately one mile south of the Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, and Tenneco 1 well sites (Sapphos Environmental 2024b).

The database search yielded a total of 79 threatened, endangered, and/or special status species with documented occurrence near the well sites (Appendix C). Given the 18 well sites vary in location, the potential for special status species to occur at the individual well sites was evaluated using four groups of well locations. EKHO 1 and Elk Ridge 1-20 were each analyzed as their own location. Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, Red Ribbon lease 2-1, Red Ribbon Lease 2-2, Red Ribbon Lease 2-3, Red Ribbon Lease 2-4, and Tenneco 1 wells were analyzed as one location. Greer 1, Feeport 1, Fuller Acres 2, and T.S.A 14X were analyzed as one location. Once well sites were grouped given location proximity, the 5-mile query buffer was merged to ensure all well site searches included a minimum of a 5-mile radius.

The potential for each special status species to occur within the well sites was evaluated according to the following criteria:

- **No Potential.** Habitat within the well sites are clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable within the well sites if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat within the well sites is unsuitable or of very poor quality. The species is not likely to be found within the well sites. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat within the well sites unsuitable. The species has a moderate probability of being found within the well sites.
- **High Potential.** All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat within the well sites is highly suitable. The species has a high probability of being found within the well sites.
- **Present.** Species is observed within the well sites or has been recorded (e.g., CNDDB, other reports) within the well sites recently.

4.4.1.1 Special Status Plant Species

Of the 39 plant species evaluated, none have a high potential to occur at the well sites. One plant was identified as having moderate potential to occur at Elk Ridge 1-20 well site: Kern mallow (*Eremalche parryi* ssp. *kernensis*) is federally endangered and has California Rare Plant Rank [CRPR 1B.2]). Moderately suitable habitat for this species is present in the chenopod scrub and grassland within and adjacent to the Elk Ridge 1-20 site.

4.4.1.2 Special Status Wildlife Species

Of the 40 wildlife species evaluated, seven have a moderate potential to occur at one or more of the 18 well sites: Crotch's bumble bee (*Bombus crotchii,* state candidate endangered), Bakersfield legless lizard (*Anniella grinnelli,* SSC), coast-horned lizard (*Phrynosoma blainvillii*, SSC), burrowing owl (*Athene*

cunicularia, SSC), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*, federally endangered, state endangered), blunt-nosed leopard lizard (*Gambelia sila*, federally endangered, state endangered), and San Joaquin kit fox (*Vulpes macrotis mutica*, federally endangered, state threatened).

Six species were considered to have high potential to occur at one or more of the 18 well sites: blunt-nosed leopard lizard (*Gambelia sila*, federally endangered, state endangered), Nelson's antelope squirrel (*Ammospermophilus nelsoni*, State threatened), giant kangaroo rat (*Dipodomys ingens*, federally endangered, state endangered), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus,* SSC), Tulare grasshopper mouse (*Onychomys torridus tularensis*, SSC), and San Joaquin kit fox (*Vulpes macrotis mutica*, federally endangered, state threatened).

4.4.2 Regulatory Setting

Federal, state, and local regulations, laws, and policies pertaining to biological resources relevant to the Project are included below.

Federal Endangered Species Act (7 United States Code [USC] Section 136, 16 USC Section 1531 et seq.). The federal Endangered Species Act (FESA), which is administered in California by the USFWS and National Marine Fisheries Service, provides protection to species listed as threatened or endangered, or proposed for listing as threatened or endangered. When applicants propose projects with a federal nexus that "may affect" a federally listed or proposed species, the federal action agency must (1) consult with the USFWS or National Marine Fisheries Service, as appropriate, under Section 7, and (2) ensure that any actions authorized, funded, or carried out by the agency are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat.

Section 9 prohibits the "take" of any member of a listed species.

Take – To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Harass – An intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.

Harm – Significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

Migratory Bird Treaty Act (16 USC Section 703 et seq.). The Migratory Bird Treaty Act (MBTA) makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird) as designated under the MBTA.

Federal Noxious Weed Act of 1974 (P.L. 93-629) (7 USC 2801 et seq.; 88 Stat. 2148). The Federal Noxious Weed Act establishes a federal program to control the spread of noxious weeds. Authority is given to the Secretary of Agriculture to designate plants as noxious weeds by regulation, and the movement of all such weeds in interstate or foreign commerce was prohibited except under permit.

Bald and Golden Eagle Protection Act (16 USC Section 668 et seq.). The Bald and Golden Eagle Protection Act declares it is illegal to take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export or import a bald or golden eagle, alive or dead, or any part, nest or egg of these eagles unless authorized. Active nest sites are also protected from disturbance during the breeding season.

Clean Water Act (33 USC Section 1251 et seq.). The Clean Water Act (CWA) requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers for a discharge from dredged or fill materials into Waters of the U.S., including wetlands. Section 401 requires a certification from the Regional Water Quality Control Board (RWQCB) for the discharge of pollutants. By federal law, every applicant for a federal permit or license for an activity that may result in a discharge into a California water body, including wetlands, must request state certification that the proposed activity would not violate state and federal water quality standards.

4.4.2.1 State

California Endangered Species Act (Fish and Game Code, Section 2050 et seq.). The California Endangered Species Act (CESA) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by CDFW, and prohibits the taking of such species without its authorization. Furthermore, CESA provides protection for those species that are designated as candidates for threatened or endangered listings. Under CESA, CDFW has the responsibility for maintaining a list of threatened species and endangered species (Fish and Game Code, Section 2070). CDFW also maintains a list of candidate species, which are species that the CDFW has formally noticed as under review

for addition to the threatened or endangered species lists. CDFW also maintains lists of Species of Special Concern that serve as watch lists. Pursuant to CESA requirements, an agency reviewing a proposed Project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the Project area and determine whether the proposed Project would have a significant impact on such species. CDFW encourages informal consultation on any proposed project that may affect a candidate species. The CESA also requires a permit to take a state-listed species through incidental or otherwise lawful activities (Section 2081, subd. (b)).

Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.). The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards.

Protection of Birds and Nests (Fish and Game Code Section 3503 and 3503.5). These policies protect California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Raptors (e.g., hawks and owls) are specifically protected.

Migratory Birds (Fish and Game Code Section 3513). This policy protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame birds.

Fully Protected Species (Fish and Game Code Section 3511, 4700, 5050, and 5515). These policies identify several amphibian, reptile, fish, bird, and mammal species that are Fully Protected. CDFW cannot issue a take permit for these species, except for take related to scientific research.

California Environmental Quality Act Guidelines Section 15380. CEQA defines rare species more broadly than the definitions for species listed under FESA and CESA. Under Section 15830, species not protected through state or federal listing but nonetheless demonstrable as "endangered" or "rare" under CEQA should also receive consideration in environmental analyses. Included in this category are many plants considered rare by CNPS and some animals on the CDFW's Special Animals List.

Lake and Streambed Alteration Agreement (Fish and Game Code, Section 1600 et seq.). This policy regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in

California designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.

4.4.2.2 Local

Kern County General Plan (2009)

Chapter 1: Land Use, Open Space, and Conservation Element

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.

Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

Policy 31. Under the provisions of the California Environmental Quality Act (CEQA), the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Implementation Measure: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to the California Environmental Quality Act.

Metropolitan Bakersfield General Plan

Chapter V: Conservation/ Biological Resources

Goal 1: Conserve and enhance Bakersfield's biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources.

Policy 4: Determine the feasibility of enhancing sensitive biological habitat and establishing additional wildlife habitat in the study area with State and/or Federal assistance.

Policy 5: Determine the locations and extent of suitable habitat areas required for the effective conservation management of designated "sensitive" plant and animal species.

4.4.3 Impact Analysis

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation. Several special status reptile and mammal species could potentially occur at one or more well sites and be impacted by Project activities. The special status reptile and mammal species with potential to occur, and therefore potentially impacted, include:

- Bakersfield legless lizard is considered to have a moderate potential to occur at the Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, Red Ribbon Lease 2-1, Red Ribbon Lease 2-2, Red Ribbon Lease 2-3, Red Ribbon Lease 2-4, and Tenneco 1 well sites.
- Coast horned lizard is considered to have a moderate potential to occur at the EKHO 1 well site.
- Blunt-nosed leopard lizard is considered to have a moderate potential to occur at the ELKO 1 well site and a high potential to occur at the Elk Ridge 1-20 well site. The chenopod scrub and grassland habitat at the Elk Ridge 1-20 and ELKO 1 well sites provide suitable habitat for Blunt-nosed leopard lizard and ground squirrel burrows are suspected to be present. There are multiple blunt-nosed leopard lizard occurrences within one mile of the Elk Ridge 1-20 site as recently as 2017 and several detections as recently as 2019, three miles from the ELKO 1 site.
- Nelson's antelope squirrel (state Threatened) is considered to have a high potential to occur at the Elk Ridge 1-20 and ELKO 1 well sites.
- Giant kangaroo rat (federal Endangered and state Endangered), short-nosed kangaroo rat, and Tulare grasshopper mouse are considered to have a high potential to occur at the Elk Ridge 1-20 well site.
- Tipton kangaroo rat (federal Endangered and state Endangered) is considered to have a moderate potential to occur at the Elk Ridge 1-20 and ELKO 1 well sites.
- San Joaquin kit fox (federal Endangered and state Threatened) is considered to have a high potential to occur at all well sites, excluding Greer 1, Feeport 1, Fuller Acres 2, T.S.A 14X where potential to occur is considered moderate.

Direct impacts to these special status reptile and mammal species could occur via direct strikes to individuals by project equipment, or entrapment. In addition, indirect impacts could occur through vibrations and dust created by plugging, abandoning, and decommissioning activities, which could alter behavioral patterns and cause them to become exposed to predators. The BMPs included in the Project and discussed in Section 2.0, *Project Description*, would help to reduce impacts to these species. However, the BMPs are generally designed specifically for endangered species, and not all of the special status reptile and mammal species that may be impacted are listed as endangered (USFWS 2011 and USFWS 2013). Therefore, the Project would have potentially significant impacts special status reptile and mammal species. Implementation of mitigation measures **MM BIO-1** through **MM BIO-7** is required. Summarized briefly, **MM BIO-1**, **MM BIO-2**, **MM BIO-3** would require a pre-disturbance site survey, a workers environmental awareness training, and procedures for reptile avoidance to reduce potential direct and indirect effects to these species to a less than significant level. If the pre-disturbance survey determines there is potential habitat for blunt-nosed leopard lizard at the Elk Ridge 1-20 and ELKO 1 well sites, adherence to **MM BIO-4** would require protocol level surveys for the species and a Section 7 consultation with the USFWS and California Fish and Game Code (CFGC) Section 2081 consultation with CDFW would be required if the species is detected. **MM BIO-5** would require a pre-disturbance site survey, a workers environmental awareness training, and procedures for mammal avoidance to reduce potential direct and indirect effects to these species to a less than significant level. If the pre-disturbance survey determines there is potential habitat for giant kangaroo rat at Elk Ridge 1-20 well site, Tipton kangaroo rat at Elk Ridge 1-20 and/or ELKO 1 well sites, and/or San Joaquin kit fox at any of the 18 well sites, adherence to **MM BIO-6 and MM BIO-7** would require protocol level surveys for these species and a Section 7 consultation with USFWS and CFGC Section 2081 consultation with CDFW would be required if the species' are detected. With implementation of **MM BIO-1** through **MM BIO-7**, Project impacts to special status reptile and mammal species would be less than significant.

As Crotch's bumble bee (state Candidate) is a flying insect species, it would be capable of escaping harm during plugging, abandoning, and decommissioning while foraging (Xerces 2024). Potentially suitable foraging and nesting habitat is present in undisturbed vegetated areas within the well sites. Specifically, the Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, Red Ribbon Lease 2-1, Red Ribbon Lease 2-2, Red Ribbon Lease 2-3, Red Ribbon Lease 2-4, Tenneco 1 well sites have known

recent occurrences within five miles and therefore the species has a moderate potential to occur at these sites. If the Project were to involve ground disturbance in vegetated areas at these well sites, an occupied bee nest potentially present on site could be significantly impacted. The disturbance required for Project activities could occur within vegetated areas; therefore, the Project would cause potentially significant impacts to Crotch's bumble bee. Implementation of **MM BIO-8** would require a presence survey, halt of work/establishment of buffer if present, and specific protocols to follow in consultation with CDFW. With implementation of **MM BIO-8**, potential direct and indirect effects to Crotch's bumble bee would be reduced to a less than significant level.

Burrowing owls (state Candidate) are considered to have moderate potential to occur at all 18 well sites. There is potentially suitable scrubland or grassland habitat at all 18 well sites and California ground squirrel burrows, the primary species of prey, are expected to be present. All 18 well sites have known occurrences within five miles of the sites (CDFW 2024). If burrowing owls are present within the vicinity of the well sites, the Project would have the potential to directly (by destroying a burrow) or indirectly (removal of habitat, construction noise, dust, and other human disturbances that may cause a nest to fail) impact the species. This would be a potentially significant impact. If this species or sign of the species is observed during the pre-disturbance construction survey (pursuant to **MM BIO-1**), implementation of **MM BIO-9** would require halt of work and specific protocols to follow in consultation with CDFW to mitigate potential impacts to the species and its occupied habitat to less than significant.

Ground disturbance could directly result in the damage or removal of Kern mallow if it is present at a well site. Indirect impacts could result from habitat modifications, such as by the introduction of invasive plants disseminated from construction equipment, contamination of soils, and habitat degradation due to accidental fuel spills during Project activities. Individuals of this species, if present, could be removed, damaged, or disturbed by Project activities, resulting in a potentially significant impact. Adherence to **MM BIO-1**, **MM BIO-2**, and **MM BIO-10** would require a workers awareness training to ensure proper identification, a presence survey, halt of work/establishment of buffer if present, and specific protocols to follow in consultation with CDFW, reducing potential direct and indirect effects to this species or other special status plant species to a less than significant level.

The 18 well sites could provide suitable nesting habitat for ground and scrub nesting migratory bird species. Thus, Project activities could result in direct impacts to active nests during ground disturbance, or disturbance-related nest

permanent sealing. For example, project-related noise and increased human activity would have the potential to cause nesting birds to abandon their nest, resulting in a potentially significant impact. Implementation of **MM BIO-11** would be required to ensure a presence level survey is conducted, and if present, a halt of work/establishment of a buffer around active nests. Potential impacts to nesting birds would be reduced to less than significant.

MM BIO-1: Pre-disturbance Biological Survey Report. A pre-disturbance biological survey shall be conducted by a Qualified Biologist at each well site, including the entire anticipated workspace around each well. The pre-disturbance biological survey shall consist of walking belt transects to accomplish 100 percent coverage of the well site plus a 100-foot buffer. During the survey, all direct and indirect observations of special-status biological resources shall be noted if encountered and their location recorded using a handheld Global Positioning Satellite device and on field forms. Habitat shall be evaluated by the Qualified Biologist to determine the potential for biological resource monitoring and/or surveys for species that are seasonal or require focused surveys during specified periods (e.g., special-status plants, blunt-nosed leopard lizard). If the Qualified Biologist determines that no such follow-up surveys are required to determine current status of special-status biological resources on the well site, that information shall be included in the biological survey report to be completed within 14 days of the pre-disturbance survey. If follow-up surveys are required, a follow-up survey report shall be completed by the Qualified Biologist and submitted to the Project proponent within 14 days of the follow-up survey. To meet seasonal requirements stipulated by Species Protocols, some surveys may be required more than 30 days prior to ground disturbances. In such cases, follow-up pre-disturbance surveys shall also be required within 30 days prior to initiation of the ground disturbance to confirm that no changes in species status or occupancy have occurred within the survey area.

The Project proponent shall maintain copies of all pre-disturbance biological survey reports completed by the Qualified Biologist. The pre-disturbance biological survey report shall include a map of the proposed Project permanent sealing and decommissioning activities boundary, biological survey area, special-status species observations (when observed), areas of potential and/or occupied habitat (if any), areas identified for avoidance, and a list of all additional applicable

mitigation measures that shall be implemented for the respective well site.

MM BIO-2: Worker Environmental Awareness Training. A Qualified Biologist shall develop and implement a Worker Environmental Awareness Program (WEAP) for all personnel that may access the Project site. WEAP training shall be conducted for each individual prior to their first access into the Project site. The Project shall consist of a presentation with material given on site or off site by trained personnel (e.g., Qualified Biologist or assigned Company Environmental Specialists). WEAP training shall cover an overview of the laws and regulations governing the protection of biological resources; a description and photographs/images of protected (i.e., special status) species known to occur or with the potential to occur; their status and legal protections; what is considered habitat and disturbance; biological resource protection measures; and a list of designated Qualified Biologist contacts. The Project proponent shall provide general awareness to workers and supply materials to assist workers in recognizing protected species that may occur, avoidance, and minimization measures to protect biological resources, and how to report biological resources if observed on site. The WEAP shall implement the following:

1. The WEAP shall emphasize the need to avoid contact with wildlife, to avoid entry into areas where biological resources have been identified for avoidance, to review Project specific pre-disturbance biological results reports and maps, and to implement all applicable avoidance and minimization measures included in the Project specific pre-disturbance biological survey results report.
2. All Project personnel present on site must sign a statement verifying that they have completed the WEAP, and that they understand the biological requirements during Project activities. The Project proponent shall maintain a list of all persons who have completed the WEAP and shall provide the list to CalGEM upon request.
3. Should a worker identify what they believe to be a special status species during Project activities, work in that area shall stop and the Qualified Biologist shall be consulted. The Qualified Biologist shall determine if there is indeed a special status species present or likely to be impacted and identify the other mitigation measures that shall be implemented.

MM BIO-3: Sensitive Reptile Species Avoidance. If the pre-disturbance biological survey (MM BIO-1) identifies the presence of Bakersfield legless lizards, coastal horned lizard, or any other special status reptile species within the Project site, the following measures shall be implemented.

1. If any Bakersfield legless lizard, coastal horned lizard, or any other reptile species of special concern are observed during permanent sealing and decommissioning activities, the identified special-status reptiles shall be allowed to move out of the work area on their own or shall be removed from the work area and released in adjacent suitable habitat by the Qualified Biologist. The Qualified Biologist shall have all appropriate permits in place prior to handling any special-status reptiles or any other wildlife.
2. All construction equipment and construction personnel vehicles shall be checked prior to moving them, to ensure that no special-status reptile is under equipment/vehicles. If any individuals are detected beneath equipment or vehicles, the equipment or vehicles shall be left in place until the individual(s) moves out of harm's way on its own accord, as determined by a Qualified Biologist.

MM BIO-4: Blunt-Nosed Leopard Lizard Surveys and Avoidance. If the pre-disturbance survey (MM BIO-1) determines there is potential habitat present within the Elk Ridge 1-20 and ELKO 1 well sites (desert scrub/grassland and mammal burrows), protocol level surveys shall be conducted prior to the start of work. The Qualified Biologist shall conduct protocol surveys in all areas within the well site and within 500 feet of access or permanent sealing and decommissioning-related disturbance that contain suitable habitat. Qualified Biologists shall perform these surveys according to the USFWS Approved Survey Methodology for the blunt-nosed leopard lizard (CDFW 2019). Pursuant to the protocol for Surveys for Disturbances for Maintenance Activities, the surveys shall be conducted for a total of 8 days between April 15 and July 15 during adequate weather conditions. If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW will be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.

MM BIO-5: Sensitive Mammal Species Avoidance. If the pre-disturbance biological survey (MM BIO-1) identifies the presence of Nelson's antelope squirrel, short-nosed kangaroo rat, Tulare grasshopper mouse, Giant Kangaroo rat, or any other special status mammal species within the proposed work area, the following measures shall be implemented.

1. If Nelson's antelope squirrel, short-nosed kangaroo rat, Tulare grasshopper mouse, Giant Kangaroo rat, or any other special status mammal species or species sign are detected during the pre-disturbance biological survey, all potential burrows shall be flagged by a Qualified Biologist and avoided for all permanent sealing and decommissioning activities. If burrows cannot be avoided, Project activities shall be delayed until protocol level surveys are conducted in line with agency recommendations. The Project will comply with all avoidance, minimization, and compensatory mitigation requirements set forth by the agency.
2. If Nelson's antelope squirrel is detected on or near the well site(s), the applicant shall consult with CDFW under CFGC Section 2081 to obtain take authorization for the species. The Project shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth by the agency.
3. All construction equipment and construction personnel vehicles shall be checked prior to moving them, to ensure that no special-status mammal species is under or in equipment/vehicles. If any individuals are detected beneath or in equipment or vehicles, the equipment or vehicles shall be left in place until the individual(s) moves out of harm's way on its own accord, as determined by a Qualified Biologist.
4. All trenches/excavations more than two feet deep shall be covered or have ramps installed by the end of the workday to allow wildlife to escape.

MM BIO-6: Giant Kangaroo Rat and Tipton Kangaroo Rat Surveys and Avoidance. If the pre-disturbance survey (MM BIO-1) determines there is potential kangaroo rat habitat present within the Elk Ridge 1-20, ELKO 1, or any of the other well sites, protocol level surveys shall be conducted prior to the start of work. The Qualified Biologist shall conduct USFWS protocol surveys in suitable habitat within the well site and all areas within 500 feet of access or permanent sealing and decommissioning

related disturbance areas. Qualified Biologists shall perform these surveys according to the USFWS Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats (USFWS 2013). If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW shall be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.

MM BIO-7: **San Joaquin Kit Fox Surveys and Avoidance.** If the pre-disturbance survey (MM BIO-1) determines there is potential San Joaquin kit fox habitat present within any of the 18 well sites, protocol level surveys shall be conducted prior to the start of work. The Project proponent shall conduct USFWS protocol surveys in suitable habitat within the well site and all areas within 500 feet of access or permanent sealing and decommissioning-related disturbance areas. Qualified Biologists shall perform these surveys according to the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011). If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW shall be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.

MM BIO-8: Crotch's Bumble Bee Surveys and Avoidance. If, at the commencement of Project permanent sealing and decommissioning activities, Crotch's bumble bee is still considered a CESA candidate species or has been listed as threatened or endangered under CESA, the Project proponent shall implement the following measures to avoid, minimize, and offset Project impacts to the species:

- A Qualified Biologist shall conduct a pre-construction survey for Crotch's bumble bee and nests at Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, Red Ribbon Lease 2-1, Red Ribbon Lease 2-2, Red Ribbon Lease 2-3, Red Ribbon Lease 2-4, and Tenneco 1. The survey shall focus on the areas with suitable nesting habitat and in all cases occur prior to initial ground-disturbing activities, such as staging and vegetation clearing. There shall be multiple surveys during the nesting season.

The purpose of the surveys shall be to identify active nest colonies inside of permanent and temporary impact areas.

- If active Crotch's bumble bee nests are observed within the well site or within a 50-foot buffer surrounding the site, an appropriate no-disturbance buffer (as determined by a Qualified Biologist) shall be established around the nest to reduce the risk of disturbance or accidental take. The buffer shall provide at least 50 feet of clearance around active nest entrances. (Note: inaccessible areas outside of the Project site can be surveyed using binoculars from the Project edge or from public roads.)
- If establishment of a no-disturbance buffer is feasible, permanent sealing and decommissioning activities shall not occur within the buffer until a Qualified Biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days, indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined to be inactive, construction activities within the no-disturbance buffer(s) shall be allowed to resume.
- If avoidance of a no-disturbance buffer is not feasible, the lead biologist shall consult with CDFW regarding potential encroachment into the no-disturbance buffer with other measures implemented, as determined by CDFW. Work shall not begin in the no-disturbance buffer without CDFW approval.
- If avoidance of the nest is not feasible, CalGEM in coordination with the lead Biologist shall consult with the CDFW regarding the potential for Project activities to result in take of the Crotch's bumble bee. In this circumstance, the Project proponent (and contractors) and CalGEM shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any incidental take permit issued for the Project by CDFW.

MM BIO-9: Burrowing Owl Surveys and Avoidance. If the pre-disturbance survey (MM BIO-1) determines there is potential habitat present within the Project site or within 500 feet, protocol level surveys shall be conducted prior to the start of work. Qualified Biologists shall conduct protocol surveys in suitable habitat within the Project site and all areas within 500 feet of access or permanent sealing and decommissioning-

related disturbance areas. If the species is not detected during these surveys, no further action is required. If a territory or burrow is confirmed during protocol surveys, CDFW shall be notified to determine whether authorization is necessary. No clearing of occupied habitat (as determined by the presence of active burrows or territory) shall occur during the breeding season (February–August). Clearing of occupied habitat during the non-breeding season shall be conducted only at the discretion of a Qualified monitoring Biologist and authorized by CDFW.

MM BIO-10: Sensitive Plant Species Avoidance. If the pre-disturbance survey (MM BIO-1) determines that additional targeted plant surveys are required for the detection of special status plant species within the well site or a 50-foot buffer, rare plant surveys shall be conducted during the appropriate season for their detection, as determined by a Qualified Biologist or Botanist. If surveys for special-status plants occur in a year during which rainfall totals reach at least 80 percent of normal, survey results shall be considered valid for five years. For surveys conducted in years of less-than-ideal rainfall (less than 80 percent average rainfall), results shall be valid for only one year. A survey of appropriate reference populations shall be necessary to support survey findings for the Project site.

If the pre-disturbance survey identifies special-status plant populations, the following measures shall be implemented:

1. Any special-status plant populations detected shall be fully described, well documented, and mapped via a Global Positioning Satellite device, and appropriately georeferenced on Project maps. For each population occurrence detected, a CNPS Field Survey Form or written equivalent shall be prepared.
2. If pre-construction surveys detect the presence of any State-listed plant species, the plant populations shall be protected from disturbance activities by implementing applicable impact avoidance measures consistent with CNPS's mitigation guidelines (1998 or more current) and with recommendations in the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998). If impact avoidance measures have not been established for the species, plant populations shall be buffered from new ground disturbance activities by a minimum of 50 feet, as determined by a Qualified Biologist or Botanist. A smaller buffer may be established,

provided there are adequate measures such as placement of a physical barrier (e.g., construction fencing) in place to avoid the destruction of individuals, with the approval of CalGEM. The buffer zone shall be established around these areas to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. A Qualified Biologist or Botanist shall be on site, at minimum, during initial ground disturbing activities to ensure that sensitive plant species are not impacted.

3. If any non-State listed special-status plants are identified that may be impacted by new ground-disturbing activities, populations shall be avoided, when possible, by a minimum 50-foot buffer zone as determined by a Qualified Biologist or Botanist. If non-State protected special-status plant species are unavoidable, up to 20 percent of a population or each discrete occurrence may be disturbed without further measures required. If greater than 20 percent of a population or each discrete occurrence would be destroyed, a Rare Plant Salvage and Restoration Plan shall be prepared by a Qualified Biologist or Botanist and submitted to CalGEM for approval. The plan shall include the following at a minimum:

    a. Relocation of individual plant(s) to an appropriate habitat area free from Project-related ground disturbance;

    b. Boundaries of non-State protected special-status plant species shall be geo referenced and mapped;

    c. Topsoil removed during site clearing where non-State protected special-status plant species are located shall be spread onto existing disturbed areas within the same geographic area and in the same soil type;

    d. Post-construction monitoring to confirm continued site occupancy by special-status plants affected by ground disturbance; and

    e. Adaptive management or other contingency measures; and/or weed management.

MM BIO-11: Nesting Bird Pre-construction Surveys. A pre-disturbance nesting bird survey for active bird nests shall be conducted by a Qualified Biologist no more than 10 days prior to the start of any ground

disturbances that shall take place during the bird nesting season (February 1 through August 31). Surveys shall follow USFWS and CDFW guidance and/or protocols, as applicable. If ground-disturbing activities were initiated prior to and continue into the bird nesting season, without a break in activity of more than one week, no nesting bird survey is necessary. If no active nests or nesting birds are identified during the pre-disturbance survey, then ground-disturbing activities may proceed, and no further mitigation shall be required for nesting birds.

If active nests are identified, the following shall be included as part of the pre-disturbance active bird nest survey results report.

Active bird nest(s) shall be avoided by establishing a minimum 250-foot non-disturbance buffer around it, a minimum 500-foot non-disturbance buffer around any active non-listed raptor nest(s), or a minimum 0.5-mile non-disturbance buffer around any federal or State-listed raptor nest(s) until the breeding season has ended. Non-disturbance buffers can be removed when a Qualified Biologist has determined that the birds have fledged, are no longer reliant on the nest or parental care for survival and adult birds are no longer occupying the nest, or the nest is no longer active (e.g., failed). Reduced non-disturbance buffers may be implemented if a Qualified Biologist concludes that work within the buffer area shall not be likely to cause nest avoidance or permanent sealing (e.g., when the disturbance area is concealed from a nest site by topography, when work activities shall have a limited duration within the buffer area, or when the species has been known to tolerate higher levels of disturbance). If reduced non-disturbance buffers are implemented, a Qualified Biologist shall monitor the active nest(s) before and during Project activities to establish a baseline for nest behavior and determine whether Project activities are adversely affecting the nest. The pre-disturbance monitoring of the nest site shall occur on at least two occasions of at least one hour each during anticipated work hours prior to Project activities to establish a behavioral baseline. The monitoring during Project activities shall be within the buffer area to detect behavioral changes of the birds because of the Project (e.g., adults flushed off the nest) that could lead to nest permanent sealing. If behavioral changes are observed, the work causing that change shall cease within the buffer area until the nest has fledged or is determined by the Qualified Biologist to no longer be active. The Qualified Biologist shall have the authority to halt or redirect Project activities to protect

nesting birds. Any reduction of buffer areas for State or federal listed species during the nesting season must be authorized by CDFW and/or USFWS.

MM BIO-12: Sensitive Natural Community Avoidance. If the pre-disturbance survey determines that a sensitive natural community is present within the Project footprint or a 50-foot buffer, the sensitive natural community shall be delineated with bright orange construction fencing under the direction of a Qualified Biologist. Fencing shall be installed prior to the initiation of Project activities and shall remain in place until Project activities are complete. No vehicles, personnel, materials, or equipment will be allowed in protected areas.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation. The EKHO 1 well site has a moderate potential to contain two sensitive natural communities: Valley Saltbush Scrub (State Rank S2.1) and Valley Sink Scrub (State Rank S1.1). The Elk Ridge 1-20 well site has a high potential to contain Valley Saltbush Scrub and a moderate potential to contain Valley Sink Scrub. The Project would have a substantial adverse effect on these sensitive natural communities should they be present. Specifically, direct impacts to sensitive natural communities would occur from trampling and/or removal as a result of Project activities. Indirect impacts to sensitive natural communities could result during and following Project implementation through the introduction of invasive plant species, as well as through erosion of disturbed areas. Therefore, the Project would have a potentially significant impact on sensitive natural communities. Implementation of **MM BIO-12** would ensure no work is conducted in flagged areas where sensitive natural communities are present, reducing potential impacts to less than significant.

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

No Impact. There are no potential jurisdictional wetland features present at any of the well sites (USFWS 2024). Therefore, the proposed Project would not have a substantial adverse effect on state or federally protected wetlands. No impact would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant. The proposed Project would not have an effect on localized wildlife movement, as permanent sealing and decommissioning activities would be temporary, occurring for 10 days at each well, and would only disturb up to 10,000 square feet around each well. The well sites are developed with well infrastructure and are not used as wildlife corridors. The proposed Project would not have the potential to create habitat fragmentation in the region or substantially impact wildlife movement. Therefore, this impact would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant. The proposed Project would not result in impacts to trees, as no tree removals are proposed. If protected trees are observed on a well site, implementation of the Project's BMPs outlined in Section 2.4, *Best Management Practices*, would ensure a comprehensive biological survey and awareness education program are implemented and avoidance is maintained. Impacts would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

No Impact. All of the well sites are located in Kern County. The only adopted Habitat Conservation Plan or Natural Community Conservation Plan in Kern County is the Kern Water Bank Natural Community Conservation Plan/Habitat Conservation Plan (CDFW 2023). The proposed Project would not occur within the Kern Water Bank and therefore the plan area of this adopted Natural Community Conservation Plan (USFWS 1998). The proposed Project would have no conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other conservation plan. There would be no impact.

4.4.4 Mitigation Measures

Implementation of the following MMs would reduce potential biological resource impacts to less than significant:

- BIO-1: Pre-disturbance Biological Survey Report
- BIO-2: Worker Environmental Awareness Training

- BIO-3: Sensitive Reptile Species Avoidance
- BIO-4: Blunt-Nosed Leopard Lizard Surveys and Avoidance
- BIO-5: Sensitive Mammal Species Avoidance
- BIO-6: Giant Kangaroo Rat and Tipton Kangaroo Rat Surveys and Avoidance
- BIO-7: San Joaquin Kit Fox Surveys and Avoidance
- BIO-8: Crotch's Bumble Bee Surveys and Avoidance
- BIO-9: Burrowing Owl Surveys and Avoidance
- BIO-10: Sensitive Plant Species Avoidance
- BIO-11: Nesting Bird Pre-construction Surveys
- BIO-12: Sensitive Natural Community Avoidance

4.5 CULTURAL RESOURCES

CULTURAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

4.5.1 Environmental Setting

In support of this project, Rincon Consultants, Inc. conducted an archaeological and built environment resources survey[4] of the 18 well locations in addition to a brief desktop review which utilized the following resources:

- A records search.
- A Sacred Lands File search.
- A review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, the City of Bakersfield Local Register, the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File, and the Archaeological Determination of Eligibility list.
- A review of historical aerial photographs and topographic maps via NETR Online, the University of California Santa Barbara FrameFinder (UCSB).

[4] This Survey is confidential and therefore not included for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 7927.005, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).

- A review of California Department of Conservation, Geologic Energy Management Division's (CalGEM) online mapping tool, Well Finder.
- Construction and operator data on the 18 wells provided by CalGEM in January and February 2025.
- Preparation of three California Department of Parks and Recreation 523 Series forms (DPR forms) for three historic-age resources within the project site: the Sunray Petroleum Wells Bakersfield, the Blackstone Oil Wells, and the Sunray Petroleum Wells Fuller Acres (Appendix D).

4.5.1.1 Records Search

On January 13, 2025, Rincon received records search results from the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC). The SSJVIC is the official state repository for cultural resources records and reports for Kern County. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the well locations and a 0.5-mile radius surrounding them. Overall, the CHRIS records search identified approximately 54 cultural resources within a 0.5-mile radius of the 18 well locations. No historic period or prehistoric cultural resources or built environment resources are located within or immediately adjacent. The CHRIS records search identified that the well locations at the Fruitvale Oil Field and Edison Oil Fields have been subject to previous archaeological survey and studies (Holm, Lisa, and Thomas L. Jackson 2011). The well locations at the Mountainview Oil Field, Semitropic Oil Field, and the Elk Ridge 1-20 Well have not been previously surveyed or studied.

4.5.1.2 Sacred Lands File Search

On January 3, 2025, Rincon contacted the California Native American Heritage Commission (NAHC) to request a search of the Sacred Lands File (SLF) The NAHC responded to the request on January 7, 2025, with a negative result, indicating no sacred lands have been reported within the well locations or their vicinity.

4.5.1.3 Review of Historical Aerial Photographs and Topographic Maps

A desktop review of historical aerial photographs and topographic maps via NETR Online and UCSB was utilized to ascertain the development history of the well locations. In general, the historical aerial photographs and topographic maps depict development within the vicinity of the well locations in association

with agricultural activities or oil well development, starting in the mid-20th century (NETR Online 2025).

4.5.1.4 Additional Background Research

A review of the NRHP, CRHR, the California Historical Landmarks list, the City of Bakersfield Local Register, the Built Environment Resources Directory, the California State Historic Property Data File, and the Archaeological Determination of Eligibility list provided negative results.

Throughout January and February 2025, Rincon coordinated with CalGEM for background information on the 18 wells. CalGEM provided operator information, year, built dates, and last active dates for each of the wells.

Additionally, data was utilized from the CalGEM online mapping tool Well Finder pertaining to the oil field name, lease, and "spud" date (i.e. date of first day of well drilling) of the 18 oil wells (CalGEM 2025) (Table 4.5-1).

4.5.1.5 Archaeological and Built Environmental Resources Survey

Rincon conducted a mix of intensive pedestrian and reconnaissance archaeological and built environment resources survey of the wells in January and February 2025. In total, 13 of the well locations were accessible for intensive pedestrian survey, four of the well locations were subject to reconnaissance survey as a result of accessibility issues, and one well location was entirely inaccessible (Table 4.5-1). Ground surface visibility ranged from fair to complete (30 to 100 percent). No archaeological resources were identified as a result of the survey. The wells themselves were noted to be over 45 years of age and were therefore recorded and evaluated for their historical significance as part of this study. For the built environment survey, the well locations were grouped together with their associated oil field and current ownership and documented on DPR forms pursuant to the guidance of the California Office of Historic Preservation.

Table 4.5-1. Well Background Information and Survey Results

Well Designation	Oil Field	Spud Date	Survey Method and Results	Eligibility Status
Feeport 1	Mountain View	9/19/1962	Intensive, Negative	Recommended Ineligible for NRHP and CRHR
E & H Dillion 1	Fruitvale	3/23/1945	Reconnaissance, Negative	Recommended Ineligible for NRHP and CRHR
Red Ribbon Lease 1 2	Fruitvale	4/13/1949	Intensive, Negative	Recommended Ineligible for NRHP and CRHR
Red Ribbon Lease 1 5	Fruitvale	10/28/1949	Intensive, Negative	Recommended Ineligible for NRHP and CRHR

Well Designation	Oil Field	Spud Date	Survey Method and Results	Eligibility Status
Red Ribbon Lease 1 7	Fruitvale	2/20/1950	Intensive, Negative	Recommended Ineligible for NRHP and CRHR
Red Ribbon Lease 2 1	Fruitvale	10/15/1949	Intensive, Negative	Recommended Ineligible for NRHP, CRHR, and local listing
Red Ribbon Lease 2 2	Fruitvale	3/2/1951	Intensive, Negative	Recommended Ineligible for NRHP, CRHR, and local listing
Red Ribbon Lease 2 3	Fruitvale	7/11/1951	Intensive, Negative	Recommended Ineligible for NRHP, CRHR, and local listing
Red Ribbon Lease 2 4	Fruitvale	7/14/1961	Intensive, Negative	Recommended Ineligible for NRHP, CRHR, and local listing
Dillion 2	Fruitvale	6/15/1943	Reconnaissance, Negative	Recommended Ineligible for NRHP and CRHR
Dillion 3	Fruitvale	6/30/1941	Reconnaissance, Negative	Recommended Ineligible for NRHP and CRHR
Dillon 4	Fruitvale	1/12/1939	Reconnaissance, Negative	Recommended Ineligible for NRHP and CRHR
Greer 1	Mountain View	2/4/1937	Intensive, Negative	Recommended Ineligible for NRHP and CRHR
Fuller Acres 2	Mountain View	10/19/1971	Intensive, Negative	Recommended Ineligible for NRHP and CRHR
Tenneco 1	Fruitvale	10/3/1980	Inaccessible	Recommended Ineligible for NRHP and CRHR
T.S.A 14X	Edison	11/5/1985	Intensive, Negative	Ineligible
EKHO 1	Semitropic	2/7/2000	Intensive, Negative	Ineligible
Elk Ridge 1-20	N/A	12/30/2003	Intensive, Negative	Ineligible

4.5.2 Regulatory Setting

Federal, state, and local regulations, laws, and policies pertaining to cultural resources relevant to the Project are included below.

4.5.2.1 Federal

National Register of Historic Places. Properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history,

architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects.

4.5.2.2 State

California Register of Historical Resources. The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (California Public Resources Code [PRC] 5024.1[a]).

California Health and Safety Code Section 7050.5. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the county in which the remains are discovered has determined if the remains are subject to the Coroner's authority. If the human remains are of Native American origin, the Coroner must notify the Native America Heritage Commission within 24 hours of this identification.

California Public Resources Code Section 5097.98. Section 5097.98 of the PRC states that the Native American Heritage Commission, upon notification of the discovery of Native American human remains, pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the Most Likely Descendant [MLD]) that it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

4.5.2.3 Local

Kern County General Plan (2009). The Kern County General Plan lists general provisions to ensure that Kern County can accommodate the anticipated growth and development of the County while maintaining and preserving natural resources. The General Plan lists the following section, policy, and implementation measures for cultural resources within Kern County. The County does not have eligibility criteria for local designation of historical resources.

1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation

Policy 25. The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

K. Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

L. The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

M. In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

N. The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

O. On a project specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

City of Bakersfield Historic Preservation Ordinance. The City of Bakersfield Historic Preservation Ordinance (Ord. 4460 § 1, 2007) addresses the formation of the Historic Preservation Commission and listing of historic resources, historic districts, and areas of historic interest.

A "Cultural resource" means on-site improvements, buildings, structures, signs, features (including significant trees or other landscaping), places, place names, interior architecture features, landmark sites, historic sites, areas (including significant trees or other landscaping located thereon) or other objects of scientific, archaeological, aesthetic, educational, cultural, architectural or historical significance to the citizens of the city.

A "Historic district" means any geographically definable urban or rural, small or large area containing buildings, structures, sites and objects linked historically through location, design, setting, materials, workmanship, and/or association. The significance of a district is the product of the sense of time and place in history that individual components collectively convey. This significance

may relate to developments during one period or through several periods in history.

An "Area of historic interest" means geographic areas, places, structures, buildings, improvements, sites or objects within the city which have distinctive character or special historic, aesthetic, architectural, cultural interest or value. Area of historic interest can also mean a single location such as a place, structure, building, improvement, site or object within the city, which has distinctive character or special historic, aesthetic, architectural, cultural interest or value.

A resource, historic district, or area of historic interest can be listed if it meets one of the following criteria:

A. It exemplifies or reflects special elements of the city, community or neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering or architectural development; or

B. It is identified with persons or events significant in local, state, or national history; or

C. It embodies distinctive characteristics of style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or

D. It is representative of the notable work of a builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman; or

E. Its unique location or singular physical characteristic(s) represents an established and familiar visual feature of a neighborhood, community or the city; or

F. It is an archaeological or paleontological site which has the potential of yielding information of scientific value.

4.5.3 Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. The 18 wells are not listed in the NRHP, CRHR, or included in the City of Bakersfield local historical register. They have also not been previously evaluated for inclusion in any such register(s). No prehistoric or historic-period resources were identified within or adjacent to the well locations as part of the CHRIS or SLF searches. While only 17 of the 18 total wells were accessible for the

survey, it is reasonable to assume that past oil field activities have resulted in extensive past ground disturbances of all 18 well locations.

All the accessible wells that are 45 years of age or older were inventoried on DPR forms and evaluated as part of the Project. The wells themselves are ubiquitous in nature and common throughout the Kern County area. Their utilitarian nature and common structure indicate that they are unlikely to have significant historical value. Eleven of the fifteen historic-age wells are located in unincorporated areas of Kern County and were recorded and evaluated for listing in the NRHP and CRHR and are recommended ineligible for listing. Four of the historic-age wells are in the City of Bakersfield and were recorded and evaluated for listing in the NRHP, CRHR, and for local listing in the City of Bakersfield Historic Register as applicable and are recommended ineligible for listing in the NRHP, CRHR, and for local listing as local historic resources, districts, and areas of historic interest. Therefore, Project activities are unlikely to alter the historical significance of the wells or surrounding areas. No impact would occur.

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

Less Than Significant with Mitigation. The Project involves the plugging and abandoning and/or decommissioning of 18 well facilities. Limited ground-disturbing activities include the capping of wells, removal of above ground infrastructure and vegetation, soil sampling, and potentially hauling off up to 3 cubic yards of contaminated soil. The maximum depth of ground disturbing activities would be approximately five to 10 feet below ground surface in order to cut well casing and would likely remain within previously disturbed soils. The four Fruitvale Oil Field wells sites that were surveyed at a reconnaissance level and the one well site that was inaccessible have been adequately surveyed in past studies (Parr and Osborne 1992 and Holm and Jackson 2011). The Mountainview Oil Field, Semitropic Oil Field and the Elk Ridge 1-20 Well have not been subject to past surveys but were surveyed as part of the proposed Project. Additionally, past surveys have been completed within the general vicinity of these locations. All well locations have been previously developed and disturbed by the construction of well pads and installation of the wells themselves, access roads, and additional oil infrastructure. Several of the wells are located within agricultural areas further indicating a high degree of disturbance. Based on previous ground disturbances at the 18 well locations, there is a low likelihood that intact archaeological resources are present. Nonetheless, there is a possibility to encounter previously undiscovered archaeological resources during plugging, abandoning, and

decommissioning activities. **MM CUL-1** would require standard procedures to follow in the event unanticipated archaeological resources are discovered, including halt of work and retainment of a qualified archaeologist to monitor the find. With implementation of **MM CUL-1**, the impact would be reduced to a less than significant level.

MM CUL-1: Unanticipated Discovery of Cultural Resources. In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR, and significant impacts to the resource cannot be avoided via Project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of CCR Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant with Mitigation. No prehistoric or historic-period burials within or outside formal cemeteries were identified within the well locations as a result of the CHRIS records search, SLF search, or pedestrian survey. The discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. To further ensure that appropriate procedures are followed in the event of

unanticipated discovery of human remains, **MM CUL-2** has been developed. With implementation of **MM CUL-2**, impacts pertaining to the potential discovery of human remains would be less than significant because all work would be temporarily halted if and when such resources were discovered, and all federal, state, and local guidelines would be adhered to.

MM CUL-2: Unanticipated Discovery of Human Remains. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.

4.5.4 Mitigation Measures

Implementation of the following MM would reduce the potential for cultural resource impacts to less than significant:

- CUL-1: Unanticipated Discovery of Cultural Resources
- CUL-2: Unanticipated Discovery of Human Remains

4.6 ENERGY

ENERGY – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

4.6.1 Environmental Setting

According to the California Energy Commission, gas consumption in Kern County in 2022, the most recent year data is available, totaled 1,774 million therms (California Energy Commission 2024). In 2022, approximately 226 million gallons of diesel was used in Kern County (California Energy Commission 2023).

4.6.2 Regulatory Setting

There are no federal or local laws, regulations, or policies pertaining to energy that are relevant to the Project. State regulations, laws, and policies pertaining to energy relevant to the Project are included below.

4.6.2.1 State

California Code of Regulations, Title 13 Section 2449 and 2485. CCR, Title 13, Section 2449 sets idling restrictions for construction vehicles. Pursuant to Title 13, Section 2449, off-road diesel vehicles are not permitted to idle for more than five minutes. Pursuant to Title 13 Section 2485, diesel-fueled commercial motor vehicles are not permitted to idle for more than five minutes.

4.6.3 Impact Analysis

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant. Energy use during permanent sealing and decommissioning activities would be temporary in nature, and heavy equipment used would be typical of similar-sized construction projects in the region. Construction contractors would be required to comply with the provisions of CCR Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These practices would result in efficient use of energy necessary to perform the Project activities during each well's temporary 10-day construction period. In the interest of cost-efficiency, the Project proponent also would not utilize fuel in a manner that is wasteful or unnecessary. The Project would not require new operations and maintenance activities or electricity consumption. Therefore, after permanent sealing and decommissioning activities, the Project would not consume additional energy resources. Therefore, the Project would not involve the inefficient, wasteful, and unnecessary use of energy during construction. Impacts would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant. Energy would be consumed during the proposed permanent sealing and decommissioning activities in the form of petroleum-based fuels to power off-road construction vehicles and equipment on the well sites, and vehicles used to transport materials and construction personnel to and from the well sites. Energy use during Project activities would be temporary in nature, lasting approximately 10 days per well and 180 days total (see Table 2.3-1 for equipment duration). The Project proponent and any contractors would be required to comply with the CCR, Title 13, Section 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to CARB diesel rules which include the use of energy efficient construction equipment. The Project would comply with regulations intended to promote energy efficiency and would be consistent with

state regulations and County goals related to energy efficiency. Therefore, the impact would be less than significant.

The proposed Project would remove wells through permanent sealing and decommissioning. There would be no operational phase of the Project that requires or consumes energy. Therefore, the Project would not conflict with or obstruct renewable energy plans. The impact would be less than significant.

4.6.4 Mitigation Measures

The Project would not result in significant impacts on energy; therefore, no mitigation is required.

4.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of	☐	☐	☐	☒

GEOLOGY AND SOILS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

4.7.1 Environmental Setting

The 18 wells are in the Great Valley geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey 2002). The Great Valley is an elongated lowland approximately 50 miles wide and 400 miles long. It is bounded to the east by the Sierra Nevada Range and to the west by the Coast Ranges. A relatively undeformed basin, the Great Valley rises from about sea level to approximately 400 feet in elevation at the north and south ends. The northern portion of the valley, referred to as the Sacramento Valley, is drained by the Sacramento River, while the southern portion of the valley, referred to as the San Joaquin Valley, is drained by the San Joaquin River. Consequently, the Great Valley is predominantly alluvial, flood, and delta plains formed by these two major river systems (Weissmann et al. 2005). The Great Valley also contains oil fields in the southernmost San Joaquin Valley and along anti-clinical uplifts on its southwestern margin. According to the USGS, faults near the well sites include the Buena Vista Fault located approximately 18 miles southeast of the Elk Ridge 1-20 well, the Pond-Poso Creek Fault located approximately 16 miles northeast of the Semitropic Oil Field, Edison Fault and White Wolf Fault located approximately three miles east and nine miles north of the Edison and Mountain View Oil Fields, respectively, and the Premier and Kern Front Faults, approximately four miles north of the Fruitvale Oil Field (USGS 2024). According to the DOC, the well sites are not within landslide or liquefaction hazard areas (DOC 2022).

The well sites are variably underlain by Pleistocene- and Holocene-aged alluvial sediments (Smith 1964; Davenport et al. 2011; Haydon and Hayhurst 2011). Pleistocene-aged alluvial sediments are known to preserve paleontological resources in the San Joaquin Valley (Jefferson 2010; Paleobiology Database 2024; University of California Museum of Paleontology 2024) and are thus considered to have high paleontological sensitivity. Holocene-aged geologic units are

generally considered too young (i.e., less than 5,000 years old; SVP 2010) to contain paleontological resources and thus have low paleontological sensitivity. However, below the surface, Holocene-aged sediments increase in age to a point where they are capable of preserving paleontological resources and may be considered to have high paleontological sensitivity. This transition depth depends on the local geologic setting and likely varies among the different well sites.

4.7.2 Regulatory Setting

Federal, state, and local regulations, laws, and policies pertaining to geology and soils relevant to the Project are included below.

4.7.2.1 Federal

Uniform Building Code. The Uniform Building Code was first published in 1927 by the International Council of Building Officials, a non-governmental organization. It was intended to promote public safety and provided standardized requirements for safe construction. Updated editions of the code were published every three years until 1997, which was the final version of the code. Since that time, the Uniform Building Code, published by the International Code Council since 1997, has been adopted by many jurisdictions, including the State of California, in their building codes.

Clean Water Act. CWA (33 USC Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. Several provisions of CWA regulate activities that could affect soil erosion and chemical composition of water. CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb one or more acre of land are required to obtain NPDES coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit). Construction General Permits are implemented and enforced by the California Water Resources Control Board under Order No. 2009-0009-DWQ. The General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes BMPs to protect storm water runoff.

Requirements of the federal CWA and associated SWPPP requirements are described in further detail in Section 4.10, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act. The National Earthquake Hazards Reduction Program was established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law (P.L.) 95– 124. At the time of its creation, Congress' stated purpose for the National Earthquake Hazards Reduction Program was "to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program." Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs.

Oil and Gas Pipelines. The Pipeline and Hazardous Material Safety Administration, under the United States Department of Transportation is responsible for regulating and ensuring the safe and secure movement of hazardous materials to industry and consumers by all modes of transportation, including pipelines. The Pipeline and Hazardous Material Safety Administration's Office of Pipeline Safety administers the United States Department of Transportation's national regulatory program to assure the safe transportation of natural gas, petroleum, and other hazardous materials by pipeline. The Office of Pipeline Safety develops regulations and other approaches to risk management to ensure safety in design, construction, testing, operation, maintenance, and spill response planning of pipeline facilities. Pipeline safety regulations are listed in the Code of Federal Regulations (CFR), Title 49 Parts 190 to 199.

4.7.2.2 State

Seismic Hazards Mapping Act of 1990. In accordance with PRC, Chapter 7.8, Division 2, the California Department of Conservation, Division of Mines and Geology (now California Geological Survey) is directed to delineate Seismic Hazard Zones through the Seismic Hazards Zonation Program. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by California Geological Survey in their land-use planning and permitting processes.

California Building Code. The State of California provides minimum standards for building design and construction relating to fire and life safety, structural safety, and access compliance through the California Building Code (CBC), CCR, Title 24. CBC provisions provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment. The code incorporates by adoption the 2012 International Building Code of the International Code Council.

Among other provisions, the CBC requires that a grading permit be issued by applicable local land use authorities if more than 50 cubic yards of soil are moved during the implementation of a Project, and Chapter 16 (Structural Design) of the code describes seismic load calculation and design.

California Public Resources Code. Section 5097.5 of the PRC states:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

Here "public lands" means those owned by, or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance and for permit actions (e.g., encroachment permits) undertaken by others.

Underground Injection Control Program. In California, wells that inject fluids associated with oil and natural gas production operations (Class II injection wells) also are regulated by CalGEM under its Underground Injection Control (UIC) Program. Injection operations regulated under the UIC Program include enhanced oil recovery through waterflood, steamflood, and cyclic steam wells, produced water disposal, and gas storage. CalGEM is authorized to regulate Class II injection wells under USEPA oversight, pursuant to the 1982 primacy agreement between the USEPA and CalGEM under the Safe Drinking Water Act (SDWA). The requirements of CalGEM's UIC Program are found in the PRC, SDWA, and state and federal regulations. The main features of the UIC Program include

permitting, inspection, enforcement, mechanical integrity testing, plugging and abandoning oversight, data management, and public outreach. It is CalGEM's intent that the UIC Program will be administered consistently in each of CalGEM's six districts.

Existing Underground Injection Control Program PAL History and Compliance (if Applicable)

CalGEM Field Rules. Pursuant to CCR, Title 14, Division 2, Chapter 4, Section 1722 (k), the State Oil and Gas Supervisor may establish field rules for any oil and gas pool or zone in a field when sufficient geologic and engineering data are available from previous drilling operations. CalGEM has established field rules for those fields where geologic and engineering information is available to accurately describe subsurface conditions. These field rules identify downhole conditions and well-construction information that oil and gas operators should consider when drilling and completing onshore oil and gas wells.

4.7.2.3 Local

Kern County General Plan (2009)

Chapter 1: Land Use, Open Space, and Conservation Element

Goal (Non-Jurisdictional Land: To promote harmonious and mutually beneficial uses of land among the various jurisdictions and land management entities present in Kern County.

> **Policy 1:** Coordination and cooperation will be promoted among the County, the incorporated cities, military bases, and the various special districts where their planning decisions and actions affect more than a single jurisdiction.

Goal (General Provisions): Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

> **Policy 25:** The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measure: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4: Safety Element

Goal 2: Reduce economic and social disruption resulting from earthquakes, fire, flooding, and other geologic hazards by assuring the continuity of vital emergency public services and functions.

Goal 8: Reduce the public's exposure to fire, explosion, blowout, and other hazards associated with the accidental release of crude oil, natural gas, and hydrogen sulfide gas.

Policy 4: The County shall encourage extra precautions be taken for the design of significant lifeline installations, such as highways, utilities, and petrochemical pipelines.

Metropolitan Bakersfield General Plan

Chapter V: Conservation/ Soils and Agriculture

Goal 3: Establish urban development patterns and practices that promote soil conservation and that protect areas of agricultural production of food and fiber crops, and nursery products.

Policy 6: Continue implementing land grading ordinances that reduce soil erosion/siltation commonly associated with land development

Policy 7: Land use patterns, grading, and landscaping practices shall be designed to prevent soil erosion while retaining natural watercourses when possible

Policy 12: Prohibit premature removal of ground cover in advance of development and require measures to prevent soil erosion during and immediately after construction

4.7.3 Impact Analysis

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii. Strong seismic ground shaking?

iii. Seismic-related ground failure, including liquefaction?

iv. Landslides?

Less than Significant. As described in Section 4.7.1, none of the well sites are located within a landslide hazard zone or liquefaction hazard zone (DOC 2022). Collectively, all wells are within close proximity but not within a fault zone. The proposed Project would not construct habitable development. Once complete, the proposed Project would minimize the potential for soil and groundwater pollution due to inadvertent leaks from the orphan wells consistent with the California Phase-1 State Permanent Sealing of Orphan Wells expenditure plan. Following permanent sealing and decommissioning activities, anticipated to take 10 days per well, the wells would not require personnel to travel to the well sites. Accordingly, the proposed Project would not result in or exacerbate the risk of loss, injury, or death involving fault rupture, seismic ground shaking, liquefaction, or landslides. This impact would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant. The permanent sealing and decommissioning activities would occur over the course of up to 10 days at each well site. Ground disturbance work to prepare each well site would require up to approximately 10,000 square feet of ground disturbance at each well. Therefore, minimal amount of ground disturbing activities would be associated with the proposed Project. After grading at each well site is completed, the soil would be immediately compacted to stabilize the soil surface prior to P&A, which would reduce the potential for erosion of the disturbed soil. Topsoil removed during grading would be placed on top of areas disturbed by grading activities to stimulate vegetation growth in the areas surrounding each well pad which, once vegetation is established, would help to stabilize the soil from erosion. Therefore, the Project would not result in substantial soil erosion or the loss of topsoil. This impact would be less than significant.

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

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property?

Less than Significant. For both Thresholds c) and d), the Project area is composed Kimberlina fine sandy loam, Hesperia sandy loam, Lokern clay, saline-alkali, partially drained, Panoche clay loam, and Granoso loamy sand, which are not known to be unstable or expansive (United States Department of Agriculture 2017; 2024). Since Project activities involve minor surface grading and excavation, resulting soil work would not cause soil within the well locations to become

unstable. The proposed Project is not located within an area of low susceptibility to liquefaction, lateral spreading, expansive soils, or landslides. Additionally, the Project does not include the development of any structures with foundations. Accordingly, even if expansive soils or unstable geology were present, it would not result in risks of life or property. Therefore, there would be a less than significant impact.

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

No Impact. The proposed Project does not involve the use of septic tanks or alternative wastewater disposal systems. Portable restrooms for workers would be provided by the Project proponent. There would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant. Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows). Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors.

Plugging and permanent sealing of wells would involve removing all aboveground well structure, capping/plugging the well, cutting off the well bore five to 10 feet below the surface, and backfilling the excavation. These excavations would exclusively involve sediments that were previously disturbed from well installation. Therefore, this activity would not pose a risk to paleontological resources. Decommissioning of attendant facilities would involve removing tanks, pipelines, and other infrastructure and backfilling sumps. The actions would exclusively involve sediments that were previously disturbed by well installation and, therefore, would not pose a risk to paleontological resources. Decommissioning underground pipelines would involve filling with cement slurry

and abandoning them in-place, which would not disturb sediments and would not impact paleontological resources.

None of the proposed ground-disturbing activities would impact previously undisturbed sediments. Therefore, regardless of the high paleontological sensitivity of the mapped sediments, no activities would significantly impact paleontological resources. Impacts would be less than significant.

4.7.4 Mitigation Measures

The Project would not result in significant impacts related to geology and soils; therefore, no mitigation is required.

4.8 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

4.8.1 Environmental Setting

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and from human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of a specific GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect

is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatons of anthropogenic CO_2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Natural Resource Agency 2019).

4.8.1.1 Significance Thresholds

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a Project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a Project are limited. The issue of climate change typically involves an analysis of whether a Project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual Project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a Project's GHG emissions.

Kern County and City of Bakersfield has not adopted numerical significance thresholds for assessing impacts related to GHG emissions, or a qualified Climate Action Plan. In addition, SJVAPCD has not adopted a numerical significance threshold for assessing GHG emissions that is applicable to the Project. In the absence of any adopted numeric threshold, the significance of the

Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Therefore, the significance of the Project's potential impacts regarding GHG emissions and climate change is evaluated based on consistency with plans and policies adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change. The most directly applicable adopted regulatory plan to reduce GHG emissions is CARB's 2022 Scoping Plan. GHG emissions from construction activities required to complete the Project are provided for informational purposes.

4.8.2 Regulatory Setting

Federal and state regulations, laws, and policies pertaining to GHG emissions relevant to the Project are included below. Local regulations related to GHG emissions are not relevant to the proposed Project.

4.8.2.1 Federal

United States Environmental Protection Agency. The United States Supreme Court determined in Massachusetts et al. v. Environmental Protection Agency et al. ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act. USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty, off-road vehicles and vehicle engines and requires annual reporting of emissions.

4.8.2.2 State

Assembly Bill 1279 (The California Climate Crisis Act). Assembly Bill (AB) 1279, "The California Climate Crisis Act," was passed on September 16, 2022, and declares the policy of the State is to achieve net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. In addition, the bill states the State's policy is to reduce GHG emissions by 85 percent below 1990 levels no later than 2045, which means that California would emit no more than 64.65 million metric tons of CO_2e per year by 2045 and would continue to reduce emissions thereafter. In response to AB 1279, CARB adopted the 2022 Scoping Plan, which lays out a path to achieve the AB 1279 targets. The actions and outcomes in the 2022 Scoping Plan would

achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

4.8.3 Impact Analysis

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant. As described in Section 4.8.1.1, Kern County and City of Bakersfield have not adopted numerical significance thresholds for assessing impacts related to GHG emissions, or a qualified Climate Action Plan. In addition, SJVAPCD has not adopted a numerical significance threshold for assessing GHG emissions that is applicable to the Project. In the absence of any adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Accordingly, this discussion of the Project's GHG emissions is provided solely for informational purposes.

Since the Project would not include new operational activity, this analysis does not consider GHG emissions beyond permanent sealing and decommissioning. These activities would temporarily generate GHG emissions primarily from the use of construction equipment and transportation to and from the well sites. As shown in Table 4.8-1, the Project would generate 78 metric tons of CO_2e.[5]

Table 4.8-1. Construction Related GHG Emissions

Timeframe	Emissions (MT of CO_2e)
2025	78
Total	**78**

MT = metric tons; CO_2e = carbon dioxide equivalent.

Source: Appendix B.

[5] CO_2e is a measure used to compare the emission from various greenhouse gases based on their global warming potential. It converts amounts of other gases to the equivalent amount of CO_2 with the same global warming potential.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant. Plans and policies have been adopted to reduce GHG emissions in the Southern California region, including CARB's 2022 Scoping Plan. The following 2022 Scoping Plan goal applies to the proposed Project (CARB 2022a):

> **2022 Scoping Plan Goal:** Support climate adaptation and biodiversity that includes protection of the state's water supply, water quality, and infrastructure to achieve carbon neutrality as soon as possible.

The 2022 Scoping Plan's goals and policies are concentrated on building decarbonization, transportation electrification, and vehicle miles traveled (VMT) reduction, and therefore are not applicable to the proposed Project (CARB 2022b). The proposed Project would involve permanent sealing and decommissioning 18 wells, thereby reducing the potential for residual hazardous materials to contaminate groundwater. Therefore, the proposed Project would improve the protection of the state's water supply and water quality, consistent with the 2022 Scoping Plan goal. Although the proposed Project would temporarily generate GHG emissions during permanent sealing and decommissioning activities, the proposed Project would ultimately be consistent with the applicable goal of the 2022 Scoping Plan. The proposed Project would not conflict with any applicable plans, policies, or regulations to reduce GHG emissions. Therefore, impacts related to GHG emissions would be less than significant.

4.8.4 Mitigation Measures

The Project would not result in significant greenhouse gas emission impacts; therefore, no mitigation is required.

4.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an	☐	☐	☐	☒

HAZARDS AND HAZARDOUS MATERIALS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
adopted emergency response plan or emergency evacuation plan?				
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

4.9.1 Environmental Setting

All but one of the 18 wells are located within active oil fields in Kern County surrounded by unpaved roads, existing oil infrastructure, and scattered vegetation. Access to the well locations is primarily provided by existing roads and previously disturbed areas. Hazardous materials brought to each site and used as part of Project activities may include fuels and lubricating oils.

Due to the large distance between each oil field, the nearest airport is different for each well. The Bakersfield Municipal Airport is located approximately 5.7 miles east of the Mountain View Oil Field and 8.4 miles northeast of Edison Oil Field. The Elk-Hills Buttonwillow Airport is located approximately 8.9 miles southwest of the Elk-Ridge 1 Well and approximately 18 miles southwest of the Semitropic Oil Field. Based on these distances, the well sites are located outside the noise contours and safety compatibility zones identified within the County's Airport Land Use Compatibility Plan (Kern County 2012).

The nearest residential receptors to Feeport 1 are single-family residences located approximately 100 feet west. The nearest sensitive receptors to the Greer 1 well are single-family residences located approximately 300 feet northwest. As mentioned previously, the well sites are located throughout Kern County and City of Bakersfield. Consequently, each well sites proximity to the nearest sensitive receptors differs. Below identifies the nearest school to each well site and/or oil field:

- Elk Ridge 1-20 well is located approximately nine miles east of Buttonwillow Union Elementary School, at 42600 CA SR 58.
- T.S.A. 14X well is located approximately four miles southwest of Lamont Elementary at 8201 Palm Avenue in Lamont and five miles northwest of Mira Monte High School at 1800 South Fairfax Road in Bakersfield.

- Ekho 1 well is located approximately 13 miles west of Wasco High School at 2100 7th Street in the City of Wasco.
- Fruitvale Oil Field is located approximately 1.2 miles south of Wayne Vanhorn Elementary School at 5501 Kleinpell Avenue in Bakersfield and approximately 2.1 miles northwest of Fruitvale Junior High School at 2114 Calloway Drive in Bakersfield.
- Mountain View Oil Field is located approximately three miles south of Lamont Elementary School and approximately three miles northwest of Mira Monte High School.

The State Water Resources Control Board (SWRCB) GeoTracker database and California Department of Toxic Substances Control (DTSC) Envirostor database do not include any hazardous cleanup sites listed at or within the well sites (DTSC 2024; SWRCB 2024a). The closest documented hazardous cleanup near a specific well site is Rosedale Properties (T0602900243), located at 4301 Rosedale Highway, approximately 827 feet east of the Red Ribbon 2 Lease wells. The Rosedale Properties Leaking Underground Storage Tank (LUST) CleanUp Program Site involved soil contamination and has a clean up status of Completed - Case Closed as of April 1993 (SWRCB 2024b). Another documented hazardous cleanup site is Atlantic Oil (T0602900293), located at 7146 Vineland Avenue – Route #5 in Bakersfield, approximately 1,000 feet southeast of the Feeport 1 and Greer 1 wells (SWRCB 2024c). The Atlantic Oil LUST CleanUp Program Site involved soil contamination and has a clean up status of Completed - Case Closed as of June 1992. All other well sites are not within 1,000 feet of a hazardous site as indicated by GeoTracker and EnviroStor.

4.9.2 Regulatory Setting

Federal, state, and local regulations, laws, and policies pertaining to hazards and hazardous materials relevant to the proposed Project are included below.

4.9.2.1 Federal

National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Section 300). The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) was first developed in 1968. The NCP is administered by the USEPA. Its purpose is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants.

It applies to oil discharges into or on navigable waters of the United States as well as hazardous substance releases into the environment that may present an imminent or substantial danger to public health or welfare of the United States. It specifies responsibilities among the federal, state, and local governments and requires the establishment of federal, regional, and area contingency plans. It summarizes state and local emergency planning requirements under the Superfund Amendments and Reauthorization Act. It also provides the procedures for undertaking removal actions pursuant to Section 311 of the CWA and response actions pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which is discussed below.

Resource Conservation and Recovery Act (40 CFR Section 240-299). The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act (RCRA) of 1976 established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Federal Hazardous and Solid Waste Amendments, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Hazardous waste is regulated under the RCRA subtitle C. The RCRA established the system for controlling hazardous waste from its point of origin to its final disposal, specifically the handling, storage, and disposal requirements. An RCRA hazardous waste is a waste that appears on one of the four hazardous wastes lists (F-list, K-list, P-list, or U-list), or exhibits at least one of four characteristics: ignitability, corrosivity, reactivity, or toxicity. The Hazardous Waste Manifest System includes a set of forms, reports, and procedures designed to seamlessly track hazardous waste from the time it leaves the generator facility where it was produced, until it reaches the off-site waste management facility that will store, treat, or dispose of the hazardous waste. Operating records, for example, must be kept on site for the duration of the facility's operation. Recordkeeping and reporting requirements are found at 40 CFR Part 264 Subpart E and 40 CFR Part 265 Subpart E.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act. CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (USC Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables

the revision of the NCP. The NCP (40 CFR, Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Emergency Planning and Community Right-to-Know Act. Under the Emergency Planning and Community Right-to-Know Act, or Title III of the Superfund Amendments and Reauthorization Act, USEPA requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments or public health departments) an inventory of the hazardous materials, emergency response plan, and employee training program. The business plans must provide a description of the types of hazardous materials/waste on site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

In 1990, Congress passed the Pollution Prevention Act which requires facilities to report additional data on waste management and source reduction activities to the USEPA under the Toxics Release Inventory Program. The goal of the Toxics Release Inventory is to provide communities with information about toxic chemical releases and waste management activities and to support informed decision making at all levels by industry, government, non-governmental organizations, and the public.

The Safe Drinking Water Act of 1974 (42 USC Section 300f et seq.). The SDWA regulates the amount of toxic substances in drinking water sources. The SDWA requires the USEPA to develop minimum federal requirements for UIC programs and other safeguards to protect public health by preventing injection wells from contaminating underground sources of drinking water (USDW). The USEPA developed the UIC Program requirements, but states, territories, and Tribes can obtain primary enforcement responsibility, or primacy. State regulations must be as stringent as federal requirements but may be more stringent. As discussed in detail in Section 4.10, *Hydrology and Water Quality*, the USEPA has delegated responsibility to CalGEM for implementing UIC Program requirements for Class II wells in California.

The subsurface aquifer located within the Project area is located within an exempted portion of the Tulare formation aquifer, which is not a protected groundwater source recognized by the USEPA under the SDWA because it does not serve as a source of drinking water. This aquifer exemption allows this underground water source to be used by energy companies for oil extraction purposes in compliance with USEPA's UIC requirements under the SDWA.

Clean Air Act Amendments of 1990: Section 112(r) (40 CFR 68). The USEPA requires facilities that handle listed regulated substances to develop Risk Management Plans (RMP) to prevent accidental releases of these substances. RMP materials are submitted to both local agencies (generally the fire department) and the USEPA. Stationary sources with more than a threshold quantity of a regulated substance shall be evaluated to determine the potential for, and impacts of, accidental releases of that substance. Under certain conditions, the owner or operator of a stationary source may be required to develop and submit an RMP. RMPs consist of three main elements: a hazard assessment that includes an off-site consequence analysis and a five-year accident history; a prevention program; and an emergency response program.

Hazardous Liquid Pipeline Safety Act. The Hazardous Liquid Pipeline Safety Act of 1979 and amendments authorize the United States Department of Transportation to regulate pipeline transportation of hazardous liquids (including crude oil, petroleum products, anhydrous ammonia, and CO). The Act provides advanced safety and environmental protection in pipeline transportation, increases the transparency of pipeline safety evaluation, and provides funding for future pipeline safety studies.

Exploration and Production Exemption from RCRA. While RCRA was enacted to regulate hazardous waste from industrial, commercial, mining, agricultural, and community activities, certain hazardous wastes which are exempted from the Subtitle C regulations are regulated under RCRA Subtitle D. Congress exempted "drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy" from regulation under RCRA Subtitle C as hazardous wastes.

The exempted oil and gas wastes are unique because they are generated in large quantities but are relatively low in toxicity. Produced waters make up about 98 percent of all oil and gas waste. The exemption only applies to wastes generated from the exploration, development, and production of oil and gas

associated with primary field operations. Primary field operations include primary, secondary, and tertiary production of oil or gas.

The Oil Pollution Act of 1990 (33 USC 2701 et seq.). Under the authority of Section 311 of the CWA, the Oil Pollution Act of 1990 prescribes a prevention, response, liability, and compensation program for oil pollution from vessels, offshore facilities, pipelines, and onshore facilities. The Oil Pollution Act requires contingency plans be developed and includes reporting requirements to ensure the earliest possible notice of discharges of oil and hazardous substances and imminent threats of such discharges to the appropriate state and federal agencies. The Bureau of Safety and Environmental Enforcement (formerly part of Mineral Management Service), U.S. Coast Guard, and US EPA are involved in the implementation of the Oil Pollution Act. In June of 1996, USEPA issued a Spill Prevention and Reporting Compliance Guidance Plan Document which integrated all the various related rules and regulations into one compliance program.

Hazard Communication, 29 CFR 1910.1200. The purpose of this section is to ensure that the hazards of all chemicals produced or imported are classified and that information concerning the classified hazards is transmitted to employers and employees. The requirements of this section are intended to be consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals, Revision 3. The transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, safety data sheets and employee training.

4.9.2.2 State

Emergency Services Act of 2009. Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important segment of the plan administered by the California Governor's Office of Emergency Services, formerly the California Emergency Management Agency. The California Governor's Office of Emergency Services is responsible for the coordination of overall state agency response to major disasters in support of local government. The office is responsible for assuring the state's readiness to respond to and recover from all hazards – natural, manmade, war-caused emergencies and disasters – and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

Hazardous Waste Control Act of 1972 (California Health and Safety Code Division 20, Chapter 6.5). The Hazardous Waste Control Act established the state hazardous waste management program, which is similar to, but more stringent than RCRA program requirements. The Hazardous Waste Control Law regulates the management of hazardous waste under Health and Safety Code, Division 20 Chapter 6.5. This law defines hazardous waste and the procedures for the handling, transportation, and disposal of hazardous waste. The implementing regulations prescribe management practices for hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. Hazardous waste is tracked from the point of generation to the point of disposal or treatment using hazardous waste manifests. The manifests list a description of the waste, its intended destination, and regulatory information about the waste. The hazardous waste control program is administered by the DTSC and by local Certified Unified Program Agencies.

The Porter-Cologne Water Quality Control Act, California Water Code Section 13300-13999 and Title 23 of the California Administrative Code. This Act is analogous to the federal CWA and regulates discharges that may affect the quality of the state's waters. Unlike the federal CWA, which defines "waters of the United States" to exclude groundwater, "waters of the State" as defined under the Porter-Cologne Act include groundwater. SWRCB and the nine RWQCBs are responsible for planning, permitting, and enforcement. SWRCB formulates policies for water-quality control and implements the required permit system.

The Porter-Cologne Act gives the San Joaquin Regional Water Quality Control Board (SJRWQCB) the authority to regulate discharges of waste to land in Kern County. SJRWQCB has established waste classifications, site classifications, and WDRs. SJRWQCB implements the regulations through issuance of WDRs and general orders for the waste management unit. As discussed in Section 4.10, *Hydrology and Water Quality*, drilling muds and boring wastes associated with oil and gas development are currently regulated under SWRCB General Order 2003-0003-DWQ which addresses low-threat discharges to land.

AB 1960 Public Resources: Oil Production Facilities and Oil Spills. Under this bill, CalGEM is required to regulate the minimum facility maintenance standards for production facilities. The regulations that accompany this bill (14 CCR, Sections 1722–1777.3) require operators to develop and implement spill contingency plans where condensate storage volume exceeds 50 barrels or at facilities that produce at least one barrel per day. The implementing regulations provide specific requirements for the spill contingency plan that include emergency contacts,

available safety equipment, checklist for spill response, maps of the facility, a list of chemicals at the facility, containment features, corrosion prevention techniques, and the sensor and alarm systems.

California Pipeline Safety Act of 1981 (California Government Code Section 51010). This California Pipeline Safety Act gives regulatory jurisdiction to the State Fire Marshal for the safety of all intrastate hazardous liquid pipelines and oil interstate pipelines used for the transportation of hazardous or highly volatile liquid substances. The law establishes the federal Hazardous Liquid Pipeline Safety Act (49 USC Section 2001 et seq.) and federal pipeline safety regulations as the governing rules for intrastate pipelines. This statute also authorizes the State Fire Marshal by agreement with the United States Secretary of Transportation, to implement the federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations as to those portions of interstate pipelines located within the state. It also establishes civil penalties for violations of the act or its regulations.

4.9.2.3 Local

Kern County General Plan (2009)

Chapter 4: Safety Element

Policy 5: The adopted Kern County, California Multi-Hazard Mitigation Plan is incorporated by reference. This multi-jurisdictional plan, approved in compliance with the Disaster Mitigation Act of 2000, provides long-term planning to reduce the impacts of future disasters.

Implementation Measure A: Facilities used for the manufacture, storage, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent on-site hazards from affecting surrounding communities in the event of inundation.

Implementation Measure B. Support the construction site review program of the Department of Oil, Gas, and Geothermal Resources that assures wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.

Chapter 5: Energy Element

Goal: To encourage the safe recycling, transportation, and disposal of wastes associated with petroleum production and processing, and to provide for the siting of disposal facilities in locations with proper access, while minimizing adverse impacts on the environment and on public health and safety.

Policy 1: The County shall continue to acknowledge the necessity to site nonhazardous oil field waste disposal sites near petroleum development to minimize transportation hazards and expenses, consistent with the provisions of the Kern County and Incorporated Cities Integrated Waste Management Plan.

Implementation Measure B: The County shall address oilfield hazardous waste issues through the Kern County and Incorporated Cities Hazardous Waste Management Plan.

Kern County Multi-Jurisdiction Hazard Mitigation Plan. The 2021 Multi-Jurisdiction Hazard Mitigation Plan critical step in continuing Kern County's commitment to hazard mitigation as one component of its comprehensive emergency management program. The mission of the plan is to provide an explanation of prevalent hazards within the County and how hazards may affect the County and participating cities and special districts differently based upon proximities to natural hazards. This plan also identifies risks to vulnerable assets, both people and property. Most importantly, the mitigation strategy presented in this plan responds to the identified vulnerabilities within each community and provides prescriptions or actions to achieve the greatest risk reduction based upon available resources.

Kern County and Incorporated Cities Hazardous Waste Management Plan (1991). In 1986, Kern County amended its General Plan to include a Hazardous Waste Component. The mission of this waste management plan is to assist businesses and industry to help manage their hazardous wastes safely, continue public participation in the planning process of hazardous waste facilities, and develop effective and equitable monitoring of compliance with hazardous waste laws.

Kern County Airport Land Use Compatibility Plan (1996). In 2012, Kern County amended its Airport Land Use Compatibility Plan to include air installation compatible use zones. The mission of this plan is to protect public health safety and welfare by ensuring the orderly expansion of airports and the adoption of land uses measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports.

Metropolitan Bakersfield General Plan. Chapter 8 of the MBGP sets the policies and goals for public safety which includes but are not limited to hazardous buildings and emergency management. As stated in the General Plan, the Kern County Fire Department does not consider the oil and gas fields in and around Bakersfield as hazardous areas.

4.9.3 Impact Analysis

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant. This impact addresses both routine and accidental releases of hazardous materials (a) and (b). Permanent sealing and decommissioning activities for the Project would involve routine storage, transport, use, and disposal of small quantities of hazardous materials, primarily related to fuel and lubricants to maintain construction equipment. These small quantities materials may include gasoline, diesel, hydraulic fluids, concrete, and solvents, all of which are regulated by federal, state, and local laws and regulations. Potentially hazardous materials removed from the Project area include fuels and oils. Subsurface pipelines would be cleaned to remove any hydrocarbons and would be filled with an inert substance (water or nitrogen) with a cap welded on its end(s). The pipelines would have very little to no gas inside of them since they would be depressurized. Once complete, the proposed Project would minimize the potential for soil and groundwater pollution due to inadvertent leaks from the orphan wells consistent with the California Phase-1 State Permanent Sealing of Orphan Wells Expenditure Plan.

The transportation, use, and storage of small quantities of hazardous materials would be carried out in accordance with federal and state regulations and requirements. These requirements would ensure proper handling of hazardous materials and limit the chance of hazardous materials being released into the environment. Construction contractors would be required to adhere to the Project specific contingency and spill plans during permanent sealing and decommissioning activities; describe spill prevention measures, equipment inspections, and equipment and fuel storage; protocols for responding immediately to spills; and describe BMPs for controlling site runoff. As such, temporary permanent sealing and decommissioning activities would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials. Therefore, impacts would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant. There are no existing or proposed schools within 0.25 miles of the well sites. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of a school. No impact would occur.

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

No Impact. According to the GeoTracker and Envirostor databases, the well locations are not included on the Cortese (Government Code Section 65962.5) list of hazardous materials storage sites, hazardous waste, or hazardous waste cleanup sites. There are no open/active hazardous material sites within 1,000 feet of each well. As detailed in Section 4.9.1, there are two closed LUST Cleanup cases within 1,000 feet from the Red Ribbon Lease 2 Wells, Feeport 1 and Greer 1 wells. Based on the distance from the Red Ribbon Lease 2 Wells, Feeport 1 and Greer 1 wells to these remediated Case Closed LUST Cleanup sites, the Cleanup sites would not create a significant hazard to workers at individual well sites. Furthermore, the proposed Project does not include new well drilling or other activities that could expose potential contamination, as the proposed Project would only include permanent sealing and decommissioning. Furthermore, once complete the proposed Project would minimize the potential for soil and groundwater pollution due to inadvertent leaks from the orphan wells consistent with the California Phase-1 State Permanent Sealing of Orphan Wells expenditure plan. Therefore, there would be no impact.

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

No Impact. As detailed in Section 4.9.1, the well sites are located outside the established noise contours and safety compatibility zones identified in the County's Airport Land Use Compatibility Plan (Kern County 2012). There are no other applicable airport land use plans or airports proximate to the well sites. No impact would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. No lane or road closures are proposed as a part of the Project. All proposed Project work would occur within an existing well field or at a specific well site. The Project would not interfere with the Kern County Multi-Jurisdiction Hazard Mitigation Plan (Kern County 2021) or the MBGP because the Project would not include development that would impede the County's or City's ability to facilitate emergency evacuation. Therefore, the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impact would occur.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant. According to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire Hazard Severity Zones (FHSZ) Map, only the Elk Ridge 1-20 well site is located within a High FHSZs of State Responsibility Areas (CAL FIRE 2023). Adjacent areas are within a State Responsibility Area with a small portion being within a Local Responsibility Area.

Construction activities would involve the use of fuels for construction equipment and water would be available during hot work to reduce potential for fires and other hot-work related issues. All cutting and welding would comply with California Fire Code 3305.6 and National Fire Protection Association 51B, and a Fire Watch procedure would conform to California Fire Code 3305.5. The Project proponent would be responsible for maintaining fire extinguishers in accordance with California Fire Code 3315 and 906 as well as providing monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire. Permanent sealing and decommissioning activities would occur in compliance with applicable PRC and local regulations to minimize fire risk. Project activities would largely occur in previously disturbed areas where there is no vegetation or other wildfire fuels, such as grass, shrubs, or trees. This would reduce the potential for Project activities to accidentally ignite a wildfire.

The Project does not include the construction of habitable structures and would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.

4.9.4 Mitigation Measures

The Project would not result in significant impacts related to hazards and hazardous materials; therefore, no mitigation is required.

4.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in a substantial erosion or siltation of on- or off-site;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources or polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of	☐	☐	☒	☐

HYDROLOGY AND WATER QUALITY – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
pollutants due to project inundation?				
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

4.10.1 Environmental Setting

According to the Federal Emergency Management Agency (FEMA) Flood Map, the Fuller Acres 2 and Greer 1 well sites are within special flood hazard area (Zone AO). All other wells are located in areas with minimal flood hazard (Zone X). No work would occur within waterways (FEMA 2024).

4.10.1.1 Hydrogeology and Hydrology

All well sites are located within the Kern County Subbasin, a 1.78-million-acre subbasin situated within the topographic horseshoe bordered on the east and southeast by the Sierra Nevada, on the west by the Southern Coast Ranges, and on the south by the San Emigdio and Tehachapi Mountains. The subbasin is a geologic complex with the following three principal aquifers, Primary Alluvial, Santa Margarita, and Olcese principal aquifer. The Kern County Subbasin of the San Joaquin Valley Groundwater Basin is one of 21 basins and subbasins identified by the California Department of Water Resources as being critically over drafted (DWR 2020).

The 1.78 million acres of land within the Subbasin consist of irrigated agriculture with actively cropped agricultural lands encompassing approximately 644,000 acres of the Subbasin, or approximately 36 percent of the total area. Approximately, five percent of lands are industrial oil fields (159,000 acres). These water demands are met with diversions from the Kern River and other local creeks and imported surface water.

The Subbasin contains several surface water features and significant infrastructure that conveys imported water supplies. The Kern River is the largest river in the subbasin and water conveyance infrastructure includes the Friant-Kern Canal, California Aqueduct, and local canals. Additionally, direct recharge in the Subbasin occurs through managed conjunctive use projects and water banking

(surface water storage and recovery) projects along the Kern River and in other areas of the Subbasin.

4.10.2 Regulatory Setting

Federal, state, and local regulations, laws, and policies pertaining to hydrology and water quality relevant to the Project are included below.

4.10.2.1 Federal

The Safe Drinking Water Act of 1974 (42 USC Section 300f et seq.). SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. SDWA authorizes the USEPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water.

The regulations allow for disposal into aquifers that would otherwise meet the criteria for a USDW if the aquifers are determined to be exempt by the USEPA in accordance with an exemption application and review process (40 CFR 146.4). For oil and gas production and Class II well operations, an aquifer may be designated as "exempted" if it does not currently serve as a source of drinking water and cannot currently or in the future serve as a source of drinking water because it is: (1) mineral, hydrocarbon, or geothermal energy producing, or can be demonstrated to contain commercially producible minerals or hydrocarbons; (2) situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical; or (3) so contaminated that it would be economically or technologically impractical to render the water fit for human consumption.

In 1983, California was granted primacy to regulate Class II wells under SDWA and must meet federal requirements for the UIC Program, including construction, operating, monitoring and testing, reporting, and closure requirements for well owners or operators. All UIC injection activity in the state must be permitted by CalGEM. Class II well operators must meet well construction and conversion standards and perform regular testing and inspection to ensure well integrity. In general, the UIC regulations (40 CFR 146 et seq.) require that owners and operators of new Class II injection wells: (1) site wells in locations free of faults and other adverse geological features; (2) drill to a depth that allows the injection into formations that do not contain USDWs, or that contain only exempt

aquifers, and that are confined from any other formation that may contain potential drinking water sources; (3) inject fluids through an internal pipe (tubing) that is located inside another pipe (casing), with cement placed between the outside pipe and the well borehole; (4) test well integrity at the time of completion and at least every five years thereafter; and (5) continuously monitor well integrity. CalGEM administers the UIC Program for Class II wells in California.

4.10.2.2 State

Porter-Cologne Water Quality Control Act. The Porter–Cologne Water Quality Control Act (Porter-Cologne Act) authorizes regulation of California water rights and water quality by the SWRCB. The Porter–Cologne Act also established nine RWQCBs to ensure that water quality on local/regional levels is maintained. The Project area is under the jurisdiction of the SJRWQCB.

California Toxics Rule. In 2000, USEPA promulgated federal water quality standards for California after previously adopted water quality objectives for toxic pollutants were overturned in a court proceeding. These federal water quality standards are known as the California Toxics Rule (CTR) and have since been incorporated into regional basin plans, where applicable. The SWRCB has adopted a policy implementing the CTR (Resolution 2000-015, as amended by Resolution 2000-30). The CTR specifies water quality criteria for 128 priority pollutants based on toxicity to aquatic species, which are used as a basis for the establishment of effluent limitations in NPDES permits. The CTR is applicable to surface waters only.

Senate Bill 1281, Disclosure of Oil and Gas Water Use and Disposal. Senate Bill (SB) 1281, effective January 2015, amended Section 3226.3 and 3227 of the PRC to require that well operators provide CalGEM with quarterly information regarding the source and disposition of water produced by or used in oil and gas production in addition to existing obligations to report gas and oil production and produced water information on a monthly basis.

Sustainable Groundwater Management Act. In 2014, California enacted the Sustainable Groundwater Management Act (SGMA) (Water Code Section10720 et seq.). The Act, and related amendments to California law, require that all groundwater basins designated as high or medium priority in the CDWR California Statewide Groundwater Elevation Monitoring program, and that are subject to critical overdraft conditions, must be managed under a new Groundwater Sustainability Plan (GSP), or a coordinated set of GSPs. High- and medium-priority basins that are not subject to critical overdraft conditions must also be managed under a GSP. Where GSPs are required, one or more local

groundwater sustainability agencies (GSAs) must be formed to cover the basin and prepare and implement applicable GSPs.

CalGEM and Underground Injection Control. In California, wells that inject fluids associated with oil and natural gas production operations (Class II injection wells) also are regulated by CalGEM under its UIC Program. See Section 4.7, *Geology and Soils*.

4.10.2.3 Local

Kern County General Plan (2009)

Chapter 4: Safety Element

Policy 1: Design discretionary critical facilities located within the potential inundation area for dam failure in order to mitigate the effects of inundation on the facility; promote orderly shutdown and evacuation (as appropriate); and prevent on-site hazards from affecting building occupants and the surrounding communities in the event of dam failure.

Implementation Measure B: Discretionary critical facilities within potential inundation areas shall be designed to mitigate or prevent effects of inundation.

Kern County Groundwater Sustainability Plan: The Kern County GSP defines beneficial uses, sets forth water quality objectives, and establishes programs to manage the quality of surface water and groundwater and achieve those water quality objectives for protection of beneficial uses.

4.10.3 Impact Analysis

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than Significant. The Project would include permanent sealing and decommissioning of all 18 wells by removing tanks, aboveground pipelines, debris, and other Project-related facilities and equipment. Each well would be cleaned out and plugged with cement and inert mud to surface, and the site would be backfilled with soil up to ground level. Staging areas would primarily occur on existing dirt roads.

East Side Canal is located approximately 150 feet east of the Feeport 1 well site. However, the proposed Project would disturb 10,000 square feet immediately surrounding the Feeport 1 well site and not extend to the canal.

No waterways are located adjacent to the well sites. All well locations are surrounded by dirt roads and terrain. Additionally, as discussed in Section 4.9, *Hazards and Hazardous Materials*, all pollutants and hazardous materials, including fuels, oils, and lubricants, would be managed in accordance with federal and state regulations which would be fulfilled through implementation of Project specific contingency and spill plans during all construction activities. These plans would specify the stormwater monitoring and construction BMPs required to reduce pollutants in stormwater runoff. Construction BMPs would include, but not be limited to, Erosion Control BMPs and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and off-site discharge of construction debris and waste.

The proposed Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant.

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

Less than Significant. The proposed Project would include permanent sealing and decommissioning of all 18 wells and would not require a substantial amount of water during the P&A or decommissioning, with only a minimal amount required for cement mixing and soil work and washing roads with water trucks to suppress dust. The permanent sealing and decommissioning activities would require water on unpaved roads to suppress dust and during pipeline decommissioning where belowground pipelines would be capped and filled with water since water is inert and non-toxic. Water would also be available during hot and/or dry work to reduce potential for fires and other hot-work related issues.

Approximately 1,000 gallons per day would be required, primarily for dust suppression. The Project would not increase impervious surfaces at the well sites because the proposed Project would not involve paving or other activities which would introduce impervious surfaces. The 2024 Kern County Subbasin GSP does not identify oil and gas operations as a significant factor affecting the achievement of any of the SGMA objectives in the Basin (Kern County Subbasin 2024). Further, the GSP identifies oil field injection wells as potential sources of contamination. However, these permitted wells are monitored by the federal UIC program, which sets the minimum requirements for injection wells to protect environmental and public health. Therefore, the proposed Project would not substantially decrease groundwater supplies or interfere substantially with

groundwater recharge such that the Project may impede sustainable groundwater management of the basin. This impact would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in a substantial erosion or siltation of on- or off-site?

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources or polluted runoff?

iv. Impede or redirect flood flows?

Less than Significant. The East Canal is located approximately 150 and 260 feet east of Feeport 1 and Greer 1 well, respectively, and no water bodies are located in proximity to the other wells. In addition, no work is planned within any waterway and no alterations to any natural drainages or streams would occur. The Project site would be limited to the location (approximately 10,000 square feet per well) of the well(s) and no facilities or roads would be constructed as part of the Project that would substantially increase the rate or amount of surface runoff.

The well locations are within existing oil fields and proposed Project activities would include only minor ground disturbance. Vegetation removal would mostly be required to mitigate fire hazards and facilitate adequate space for potential equipment additions and maneuverability during the Project operations. However, the sites would be backfilled with soil up to the ground level once the wells are cleaned out and plugged with cement and inert mud, which would stabilize the site from soil erosion. Furthermore, no new roads are proposed and the existing access roads within the Project areas would remain unpaved. Therefore, the Project would not impede infiltration of stormwater through the addition of impervious surfaces, and impacts related to altering drainage patterns would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant. The well sites are located over 70 miles west of the Pacific Ocean and are therefore not subject to tsunami. No large bodies of water

are proximate to the well sites such that the sites are at risk of seiche. According to FEMA Flood Maps, the Fuller Acres 2 and Greer 1 wells sites are within special flood hazard area designated as Zone AO. All other wells are located in areas of minimal flood hazard, designated as Zone X. No work would occur within waterways (FEMA 2024).

During permanent sealing and decommissioning activities, pollutants such as oils, chemicals, and other substances from vehicles, equipment, and materials could risk release due to inundation since portions of specific well site(s) and staging areas are located in a FEMA flood zone. As part of the compliance with the Construction General Permit, a SWPPP would be prepared for the proposed project. Among other things, the SWPPP requires that hazardous materials be properly stored, contained, and disposed of to prevent polluted stormwater discharged from construction sites, which would prevent substantial spills of hazardous materials during project inundation.

With implementation of the SWPPP, impacts from the risk release of pollutants due to Project inundation would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. The well locations are within the Kern County Subbasin, which is managed in accordance with the guidance within the Kern County Subbasin GSP. The Kern County Subbasin GSP was prepared collaboratively, with 20 GSAs involved in the preparation and implementation of the Kern County Subbasin GSP. The proposed Project would utilize approximately 1,000 gallons of water per day during permanent sealing and decommissioning activities (primarily for fugitive dust control). No potable water would be required during Project operation since the Project would include P&A and decommissioning of 18 wells. As discussed in Threshold 4.10(a), construction and decommissioning would involve soil disturbing activities that would effectively be controlled through implementation of erosion control measures and BMPs as part of the SWPPP and Construction Stormwater General Permit. The Kern County Subbasin GSP does not identify oil and gas operations as a significant factor affecting the achievement of any of the SGMA objectives in the Basin. Therefore, this impact would be less than significant.

4.10.4 Mitigation Measures

The Project would not result in significant impacts to hydrology and water quality; therefore, no mitigation is required.

4.11 LAND USE AND PLANNING

LAND USE AND PLANNING – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

4.11.1 Environmental Setting

Wells located within the Fruitvale Oil Field are within the City of Bakersfield jurisdiction. All remaining wells are located in unincorporated Kern County.

4.11.2 Regulatory Setting

There are no relevant federal laws or regulations relevant to land use and planning applicable to the Project. State and local laws, regulations, and policies applicable to land use and planning relevant to the Project are included below.

4.11.2.1 State

Seventeen of the eighteen well locations included in the proposed Project are located in State designated oil fields. The following presents Statewide legislation related to oil and gas projects.

Senate Bill 1137. The provisions of SB 1137 (Gonzalez, Chapter 385, Statutes of 2022) are currently stayed by operation of law pending a vote on a referendum against that legislation. SB 1137 prohibits the development of new oil and gas wells or infrastructure in health protection zones, as defined, except for purposes of public health and safety. The bill requires operators of existing oil and gas wells or infrastructure within health protection zones to undertake specified monitoring, public notice, and nuisance requirements. The bill requires CARB to consult and concur with CalGEM on leak detection and repair plans for these facilities, adopt regulations as necessary to implement emission detection system standards, and collaborate with CalGEM on public access to emissions detection data.

4.11.2.2 Local

Kern County Municipal Code. Chapter 19.98 – Oil and Gas Production, of the Kern County Municipal Code states the required procedures for plug and abandon wells, including obtainment of a minor activity review permit, accordance with applicable laws and regulations administered by the California Geologic Energy Management Division, and submittal of a letter notifying the County Planning and Natural Resources Department which facilities have been abandoned within 30 days from completion of the plugged and abandoned procedures.

Kern County Zoning Ordinance. Chapter 19, Zoning, of the Kern County Municipal Code contains 36 zoning districts that function as base districts and are used to identify land uses in the unincorporated areas of the county. The proposed Project sites are located within the following zones:

- E (2 1/2) MH PE: Estate 2.5 Acres, Mobile-home Combining, Petroleum Extraction Combining
- A: Exclusive Agriculture
- M-3 PD: Heavy Industrial, Precise Development Combining

Each Kern County zoning code designation applicable to each proposed Project site include oil and gas production as an allowable use.

City of Bakerfield Municipal Code. Chapter 15.66 – Drilling For and Production of Petroleum of the City of Bakersfield Municipal Code requires that the surface area of an abandoned well shall be returned to its natural condition to the satisfaction of CalGEM, as determined by the City Public Works Director.

City of Bakersfield Zoning Ordinance. Chapter 17, Zoning, of the City of Bakerfield Municipal Code contains 31 zoning districts that function as base districts and are used to identify land uses in the unincorporated areas of the county. The well sites within the City of Bakersfield are located within the M-2 General Manufacturing zone under which oil and gas production is an allowable use.

4.11.3 Impact Analysis

a) Physically divide an established community?

No Impact. Seventeen of the 18 wells are located within existing oil field leases, outside of an established community. Although the Elk Ridge 1-20 well is not within an oil field, it is located approximately nine miles west of the nearest

incorporated City, Buttonwillow, and surrounded by agricultural fields. Therefore, the Elk Ridge 1-20 well is not within an established community. Proposed activities would not physically divide an established community and there would be no impact.

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

Less than Significant. The proposed Project involves the P&A of 18 wells and decommissioning of attendant facilities and pipelines. The Elk Ridge 1-20 well and wells in the Mountain View, Edison, and Semitropic Oil Fields are located within unincorporated Kern County and would be subject to the Kern County local regulations detailed in Section 4.11.2, *Regulatory Setting*. Wells located in the Fruitvale Oil Field are within the City of Bakersfield and would be subject to the City of Bakersfield local regulations detailed in Section 4.11.2, *Regulatory Setting*. All wells are designated and zoned in areas that permit oil extraction and related activities, including the eventual plugging, abandoning, and decommissioning. The Project would be consistent with plans, policies, and regulations associated with P&A of idle wells in the State of California. The proposed Project would comply with applicable requirements included in the City of Bakersfield Municipal Code and Kern County Municipal Code.

The anticipated impacts resulting from Project activities (e.g., potential release of criteria pollutants, noise, construction worker traffic) have been evaluated in this IS/MND. As described throughout this IS/MND, the proposed Project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated on all environmental issue areas. Furthermore, once complete, the proposed Project would minimize the potential for soil and groundwater pollution due to inadvertent leaks from the orphan wells consistent with the California Phase-1 State Permanent Sealing of Orphan Wells expenditure plan. Therefore, the Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. This impact would be less than significant.

4.11.4 Mitigation Measures

The Project would not result in significant land use and planning impacts; therefore, no mitigation is required.

4.12 MINERAL RESOURCES

MINERAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

4.12.1 Environmental Setting

Kern County has areas of mineral resources, including aggregate minerals utilized for construction. In 2011, the State Mining and Geology Board published a report designating significant aggregate resources in the Bakersfield Production-Consumption region (California State Mining and Geology Board 2011). These resource areas are located primarily near the Kern River. None of the wells included in the proposed Project are located within areas of designated significant aggregate resources.

4.12.2 Regulatory Setting

There are no relevant state laws or regulations relevant to mineral resources applicable to the Project. Federal and local regulations, laws, and policies pertaining to mineral resources relevant to the Project are included below.

4.12.2.1 Federal

Surface Mining and Reclamation Act of 1975. The Surface Mining and Reclamation Act of 1975 identifies and protects mineral resources of statewide or regional significance and ensure that those resources are available when needed. The Surface Mining and Reclamation Act requires the state Geologist to classify land into Mineral Resource Zones according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions are made that could preclude mining.

4.12.2.2 Local

Kern County General Plan (2009). The Kern County General Plan includes the following goals and policies to promote the conservation, development, and utilization of natural resources, including mineral resources:

Chapter 1: Land Use Element

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.

Chapter 5: Energy Element

Section 5.3.5 Reuse of Nonproductive Petroleum Resource Areas:

Policy 1: The County shall promote safe well permanent sealing in accordance with DOGGR regulations through discretionary applications.

Policy 2: The County shall work with the DOGGR to ensure the removal of all surface equipment from abandoned petroleum development sites.

Kern County Municipal Code. Chapter 19.98 – Oil and Gas Production, of the Kern County Municipal Code states the required procedures for plug and abandon wells, including obtainment of a minor activity review permit, accordance with applicable laws and regulations administered by CalGEM, and submittal of a letter notifying the County Planning and Natural Resources Department which facilities have been abandoned within 30 days from completion of the plugged and abandoned procedures.

Metropolitan Bakersfield General Plan

Chapter V: Conservation/Mineral Resources.

Goal 1: Protect areas of significant resource potential for future use.

Goal 2: Document areas of current mineral and energy resource extraction, as a basis for land use and conservation policies and programs.

Goal 3: Protect land, water, air quality and visual resources from environmental damage resulting from mineral and energy resource development.

City of Bakerfield Municipal Code. Chapter 15.66 – Drilling For and Production of Petroleum of the City of Bakersfield Municipal Code requires that the surface area of an abandoned well shall be returned to its natural condition to the satisfaction of CalGEM, as determined by the City Public Works Director.

4.12.3 Impact Analysis

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

No Impact. The proposed Project involves the P&A of 18 wells and decommissioning of attendant facilities and pipelines. All 18 wells included in the proposed Project are orphan wells which are out of commission and not currently extracting oil resources. Accordingly, the P&A of the wells would not result in the loss of availability of oil in the state and the Project would not involve mining, exploration, or extraction of mineral resources. Therefore, the Project would have no impact.

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

No Impact. The Kern County General Plan and City of Bakerfield General Plan do not designate any locally important mineral resource recovery sites. Thus, none of the 18 wells included in the proposed Project exist within locally important mineral resource recovery sites, as designated by Kern County or the City of Bakersfield. Additionally, none of the wells included in the proposed Project are located within the areas of significant aggregate resources designated by the State Mining and Geology Board. Accordingly, the Project would not result in the loss of availability of oil resources to Kern County or the City of Bakersfield as all 18 wells included in the proposed Project are orphan wells which are not currently in extracting oil resources. Therefore, no impact would occur.

4.12.4 Mitigation Measures

The Project would not result in significant mineral resource impacts; therefore, no mitigation is required.

4.13 NOISE

NOISE – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 Environmental Setting

Overview of Noise

The unit of measurement used to describe a noise level is the decibel (dB). However, the human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called "A weighting" is used to filter noise frequencies which are not audible to the human ear. A weighting approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. A person's relative judgment of the loudness or annoyance of a sound correlates well with the "A-weighted" levels of those sounds. Therefore, the A-weighted noise scale is used for measurements and standards involving the human perception of noise. In this analysis, all noise levels are A-weighted, and "dBA" is understood to identify the A-weighted dB. Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A 10 dB increase represents a 10-

fold increase in sound intensity, a 20 dB change is a 100-fold difference, 30 dB is a 1,000-fold increase, etc. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two equivalent noise sources combined do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; a change of 5 dBA is readily perceptible; and an increase of 10 dBA sounds twice as loud.

Noise Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this analysis are the one-hour equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period. Typically, Leq is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. The maximum sound level is the highest Root Mean Squared sound pressure level within the sampling period, and minimum sound level is the lowest Root Mean Squared sound pressure level within the measuring period.

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of the distance. Traffic noise is not a single, stationary point source of sound. Over some time interval, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft

site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dBA per doubling of distance.

Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration 2011).

Overview of Vibration

Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second. Since it is related to the stresses experienced by buildings, PPV is often used in monitoring and controlling construction vibration.

Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Noise-sensitive land uses are those in which persons occupying the uses are particularly sensitive to the effects of noise, including housing, schools, medical facilities, libraries, social care facilities, and similar facilities. Vibration-sensitive receptors, which are similar to noise-sensitive receptors, include residences and institutional uses, such as schools, churches, and hospitals. The 18 wells are located in a variety of areas and are located at varying distances from sensitive receptors, although they are generally far away (e.g., greater than 1,000 feet) from sensitive receptors. Three wells are located within 1,000 feet of the nearest residences: Feeport 1 at a distance of approximately 100 feet; Greer 1 at a distance of approximately 300 feet; and Fuller Acres 2 at a distance of approximately 500 feet. At these locations, a decibel meter would be utilized to monitor noise levels near the site boundaries

Existing Noise Setting

The primary noise sources in the vicinity of the wells is typically vehicle traffic on nearby roadways. Noise sources may also occur from nearby industrial uses, such as oil extract operations, as well as rail operations.

4.13.2 Regulatory Setting

There are no relevant federal or state laws or regulations relevant to noise applicable to the Project. Local regulations, laws, and policies pertaining to noise relevant to the Project are included below.

4.13.2.1 Local

Kern County Municipal Code Section 8.36.020. Section 8.36.020 of the Kern County Municipal Code establishes acceptable hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors, stating that it is prohibited to:

- Create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:
  a. The development services agency director or his designated representative may for good cause exempt some construction work for a limited time.
  b. Emergency work is exempt from this section.

City of Bakersfield Municipal Code Chapter 9.22. Chapter 9.22 of the Bakersfield Municipal Code establishes that it is unlawful for construction to occur outside the hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. Construction performed 1,000 feet or more from residential receptors is exempt from these hours.

Significance Thresholds

The wells are located in either Kern County jurisdiction or City of Bakersfield jurisdiction. Both codes are similar, with restricted construction hours outside the hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends.

The Kern County Code and Bakersfield Municipal Code do not provide a quantitative construction noise threshold. Therefore, in the absence of local criteria, based on the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (2018) criteria, daytime construction noise would be

significant if noise levels exceed 80 dBA Leq for an 8-hour period or the nighttime construction noise threshold of 70 dBA Leq for an 8-hour period.

The Kern County Municipal Code and Bakersfield Municipal Code also do not provide quantitative vibration thresholds. Therefore, vibration limits used in this analysis to determine potential impacts to local land uses are based on guidelines for vibration damage potential contained in Caltrans' (2020) *Transportation and Construction Vibration Guidance Manual*, shown in Table 4.13-1. The nearest vibration sensitive receptors are residential buildings, which, for the purposes of this analysis, are conservatively categorized as older residential structures. As shown therein, construction vibration impact would be significant if vibration levels exceed 0.3 PPV in/sec at these residences for continuous and frequent intermittent sources.

Table 4.13-1. Vibration Damage Potential Criteria

Building Category	Transient Sources (in/sec PPV)	Continuous/Frequent Intermittent Sources (in/sec PPV)
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic sites and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: PPV = peak particle velocity; in/sec = inches per second.

Source: Caltrans 2020.

4.13.3 Impact Analysis

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant. Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. Noise levels were modeled from the center of the equipment activity area consistent with FTA guidance (FTA 2018).

Construction noise was estimated using the Federal Highway Administration Roadway Construction Noise Model. Typical construction projects have long-term noise averages that are lower than louder short-term noise events due to equipment moving from one point to another on the site, work breaks, and idle time. Each phase of construction has a specific equipment mix depending on the work to be carried out during that phase. Accordingly, each phase also has its own noise characteristics; some have higher continuous noise levels than others, and some may have discontinuous high-impact noise levels. The maximum hourly Leq of each phase is determined by combining the Leq contributions from each piece of equipment used in that phase (FTA 2018).

Project construction would include permanent sealing and decommissioning activities. For assessment purposes, the five loudest pieces of equipment listed in Table 2.1-1 and Table 2.3-1 in Section 2.0, *Project Description*, were modeled simultaneously. For P&A activities, this would include a generator, crane, tractor, compactor, and drill rig. For decommissioning, this would include a generator, grader, tractor, dozer, and excavator. Table 4.13-2 shows the results of the noise modeling from the Roadway Construction Noise Model at each well site to the nearest sensitive receptor.

Table 4.13-2. Construction Noise Levels at Sensitive Receptors

Drilling Site	Distance to Nearest Sensitive Receptor (feet)	Noise Level Plugging and Permanent sealing (dBA Leq)	Noise Level Decommissioning (dBA Leq)
Feeport 1	100	78	80
E & H Dillion 1	3,400	48	49
Red Ribbon Lease 1-2	3,150	48	50
Red Ribbon Lease 1-5	3,580	47	49
Red Ribbon Lease 1-7	3,100	49	50
Red Ribbon Lease 2-1	1,100	58	59
Red Ribbon Lease 2-2	1,100	58	59
Red Ribbon Lease 2-3	1,100	58	59
Red Ribbon Lease 2-4	1,100	58	59
Dillion 2	3,000	49	50
Dillion 3	3,250	48	50
Dillon 4	3,600	47	49
Greer 1	350	69	70
Fuller Acres 2	500	64	66

Drilling Site	Distance to Nearest Sensitive Receptor (feet)	Noise Level Plugging and Permanent sealing (dBA Leq)	Noise Level Decommissioning (dBA Leq)
Tenneco 1	2,800	49	51
T.S.A 14X	2,400	51	52
EKHO 1	10,500	38	39
Elk Ridge 1-20	5,400	44	45

Source: Roadway Construction Noise Model (Appendix D).

As shown in Table 4.13-2, Project construction noise levels would not exceed 80 dBA Leq at the sensitive receptor nearest Feeport 1 site, which would not exceed the FTA residential daytime construction noise threshold of 80 dBA Leq at the nearest sensitive receptor. All other wells are located further from noise sensitive receptors and would therefore result in lower noise levels that would also not exceed the daytime threshold of 80 dBA Leq.

As described under Section 2.0, *Project Description*, construction would be typically performed between 7:00 a.m. and 5:00 p.m., which would comply with the allowed construction hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. However, construction could be performed as early as 4:00 a.m. to comply with CalOSHA requirements if the heat index becomes a concern for construction workers. In this scenario, construction noise levels would potentially exceed the FTA residential nighttime construction noise threshold of 70 dBA Leq at the nearest sensitive receptor from the Feeport 1 site.

As described under Section 2.4(b), *Protective Measures*, at this location, a decibel meter would be utilized to monitor noise levels near the site boundaries. Noise levels would be recorded and monitored throughout the permanent sealing process. If recorded noise levels exceed local ordinance requirements, such as the FTA nighttime construction noise threshold of 70 dBA Leq, stop work may be implemented to determine the best path forward to reduce noise levels. Project components include noise controls such as straw bales and/or sound barriers or curtains of appropriate height that would reduce noise levels below threshold. All other wells would be located further from noise sensitive receptors and would therefore result in lower noise levels that would not exceed the FTA nighttime construction noise threshold of 70 dBA Leq. Therefore, construction noise levels would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant. Construction activities known to generate excessive groundborne vibration, such as pile driving, would not be conducted as part of the Project. The greatest source of vibration during permanent sealing and decommissioning activities would be a large bulldozer. At 100 feet, the nearest distance to a sensitive receptor location from any of the 18 wells (Feeport 1 well), the large bulldozer would result in a vibration level of 0.011 PPV in/sec. Since the other 17 wells would be further from sensitive receptors, resulting vibration levels would be lower than 0.011 PPV and below identified thresholds. Therefore, this impact would be less than significant.

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

No Impact. Due to the large distance between each oil field, the nearest airport is different for each well. The Bakersfield Municipal Airport is located approximately 5.7 miles east of the Mountain View Oil Field and 8.4 miles northeast of Edison Oil Field. The Elk-Hills Buttonwillow Airport is located approximately 8.9 miles southwest of the Elk-Ridge 1 Well and approximately 18 miles southwest of the Semitropic Oil Field. The wells are not located within an influence area or established noise contours of any of the County's airports (Kern County 2012). Therefore, Project personnel would not be exposed to excessive airport noise. No impact would occur.

4.13.4 Mitigation Measures

The Project would not result in significant noise impacts; therefore, no mitigation is required.

4.14 POPULATION AND HOUSING

POPULATION AND HOUSING – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

4.14.1 Environmental Setting

The Project area is located within unincorporated Kern County and the City of Bakersfield. According to the California Department of Finance, the population of Bakersfield is 411,109 people, and the population of unincorporated Kern County is 302,762 people (California Department of Finance 2024). There would be no activities related to the Project after completion of Proposed activities, including restoration of the sites.

4.14.2 Regulatory Setting

There are no federal, state, or local laws, regulations, or policies pertaining to population and housing that are relevant to the proposed Project.

4.14.3 Impact Analysis

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project would occur over approximately 10 days per well. The Ribbon Lease wells are located within the City of Bakersfield and remaining wells are located within unincorporated Kern County. The Project would utilize existing oil field work crews and existing oil field subcontractors (rig crew). After completion of the Project, no new workers would be required as there would be no operational activities related to the Project. Therefore, the Project

would not induce population growth directly or indirectly. There would be no impact.

b) Displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed Project includes the permanent sealing and decommissioning of 18 wells with all but one located within existing oil fields. The Project would not displace people or housing and there are no habitable structures proposed. Therefore, there would be no impact.

4.14.4 Mitigation Measures

The Project would not result in significant population and housing impacts; therefore, no mitigation is required.

4.15 PUBLIC SERVICES

PUBLIC SERVICES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police Protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

4.15.1 Environmental Setting

4.15.1.1 Fire Protection

All but one of the 18 wells are located within active oil fields within the City of Bakersfield or unincorporated Kern County, surrounded by unpaved roads, existing oil infrastructure, and scattered vegetation. Access to the well locations is provided by existing roads and previously disturbed areas.

Due to the large distance between each oil field, the nearest fire protection service is different for each well. One well is not located within an oil field, while the remaining wells are in the Fruitvale (12), Mountain View (3), Edison (1), and Semitropic (1) Oil Fields. The Kern County Fire Department (KCFD) provides fire protection and emergency medical services to the unincorporated areas of Kern County (KCFD 2024). KCFD operates 47 full-time fire stations and one seasonal station and is divided into seven battalions for operational management. As of 2024, the KCFD is staffed with 7 battalion chiefs, 16 captains, 26 engineers, 521 firefighters, four water tenders, two hand crews, three crash rescue, three hazardous material response team members, two technical rescue personal, one

fire foam tender. The various well sites would be served by the nearest KCFD fire station to each well site, which would be the primary responder to a fire or emergency; however, in the event of a major fire, other stations would be called on to respond, as necessary.

The Elk Ridge 1-20 well, which is not located on an oil field, would be served by KCFD Station 24, located at 23246 2nd Street in McKittrick California, and is located approximately 6.1 miles to the southwest. The wells located in the Fruitvale Oil Field (12) would be served by KCFD Station 66, located at 3000 Landco Drive in Bakersfield California, and is approximately 1.1 miles south. The wells located in the Mountain View Oil Field (3) would be served by KCFD Station 45, located at 11809 Edion Highway, approximately 3.6 miles northwest in Bakersfield, California. The T.S.A. 14X well located in the Edison Oil Field would also be served by KCFD Station 45, located approximately four miles to the north. Furthermore, the EKHO-1 well located in the Semitropic Oil Field would be served by KCFD Station 26, located at 14670 Lost Hills Road in Lost Hills California, approximately 5.7 miles to the northwest.

4.15.1.2 Police Protection

Police services are provided to the well sites by the Kern County Sheriff's Office (KCSO). The nearest KSCO location to the Elk Ride 1-20 well and the EKHO-1 well located in the Semitropic Oil Field is the Shafter Police Department located at 201 Central Valley Highway, in Shafter California, approximately 22 miles southeast. The nearest KSCO to the wells located in the Fruitvale Oil Field (12) is the Bakersfield Police Department located at 1601 Truxtun Avenue, in Bakersfield California, which is approximately 2.6 miles southeast of wells located in the Fruitvale Oil Field. The nearest KSCO location to the wells located in the Mountain View Oil Field (3) is located approximately 5.13 miles west at 106 E White Lane, in Bakersfield California. The nearest KSCO location to the T.S.A. 14X well located in the Edison Oil Field is located 8.0 miles west at 106 E. White Lane, in Bakersfield, California.

4.15.1.3 Schools

The nearest residential receptors to Feeport 1 are single-family residences located approximately 100 feet west. The nearest sensitive receptors to the Greer 1 well are single-family residences located approximately 300 feet northwest. As mentioned previously, the well sites are located throughout Kern County and City of Bakersfield. Consequently, each well sites proximity to the nearest sensitive

receptors differs. The following identifies the nearest school to each well site and/or oil field:

- Elk Ridge 1-20 well is located approximately nine miles east of Buttonwillow Union Elementary School, at 42600 CA SR 58.
- T.S.A. 14X well is located approximately four miles southwest of Lamont Elementary at 8201 Palm Avenue in Lamont and five miles northwest of Mira Monte High School at 1800 South Fairfax Road in Bakersfield.
- Ekho 1 well is located approximately 13 miles west of Wasco High School at 2100 7th Street in the City of Wasco.
- Fruitvale Oil Field is located approximately 1.20 miles south of Wayne Vanhorn Elementary School at 5501 Kleinpell Avenue in Bakersfield and approximately 2.10 miles northwest of Fruitvale Junior High School at 2114 Calloway Drive in Bakersfield.
- Mountain View Oil Field is located approximately three miles south of Lamont Elementary School and approximately three miles northwest of Mira Monte High School.

4.15.1.4 Parks

Information regarding nearby parks is discussed in Section 4.16, *Recreation*.

4.15.2 Regulatory Setting

There are no federal laws, regulations, or policies potentially applicable to the project relevant to public services. State and local laws, regulations and policies pertaining to public services relevant to the project are included below.

4.15.2.1 State

California Department of Forestry and Fire Protection. Under CCR Title 25, CAL FIRE has the primary responsibility for implementing wildfire planning and protection for State Responsibility Areas (SRAs). CAL FIRE develops regulations and issues fire-safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately owned wildlands are under CalFire jurisdiction. CAL FIRE adopted Fire Hazard Severity Zone maps for SRAs and Local Responsibility Areas (LRAs) in November 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and the burning fire brands that the fire sends ahead of the flaming front. In addition to wildland fires, CAL FIRE's planning

efforts involve responding to other types of emergencies that may occur daily, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties, including Kern.

4.15.2.2 Local

Kern County General Plan (2009)

Chapter 1: Land Use, Open Space, and Conservation Element

Policy 6: The County will ensure adequate fire protection to all Kern County residents.

Policy 7: The County will ensure adequate police protection to all Kern County residents.

Chapter 4: Safety Element

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.

Kern County Multi Jurisdiction Hazard Mitigation Plan. The purpose of the KCFD Hazards Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service, and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every 5 years (Kern County 2021).

Metropolitan Bakersfield General Plan. The MBGP Land Use Element contains the following policy relevant to maintaining public services:

Goal 50: Coordinate with the appropriate agencies so that adequate land and facilities are set aside for schools, parks, police/fire, libraries, cultural facilities, recreational facilities and other service uses to serve the community.

4.15.3 Impact Analysis

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

i) Fire Protection?

Less than Significant. The proposed Project includes the permanent sealing and decommissioning of 18 wells within Kern County and the City of Bakersfield. No permanent structures would be built and therefore no increase in the long-term need for fire protection services would occur. During permanent sealing and decommissioning, vegetation would be cleared surrounding the existing well pads in order to minimize fire risk. Furthermore, construction personnel would be required to comply with applicable PRC and local regulations to minimize fire risk, including the use of spark arrestors in construction equipment, and removal of combustible debris prior to permanent sealing and decommissioning activities.

All cutting and welding would comply with California Fire Code 3305.6 and National Fire Protection Association 51B and a Fire Watch procedure would conform to California Fire Code 3305.5. The Project proponent would be responsible for maintaining fire extinguishers in accordance with California Fire Code 3315 and 906 as well as providing monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire.

The proposed Project would be temporary and would include implementation of fire safety controls during Project activities. The Project would not require additional fire protection services beyond the completion of Project activities and the Project would not require the provision of new or physically altered fire protection facilities. This impact would be less than significant.

ii) Police Protection?

No Impact. The proposed Project includes the P&A of 18 orphan wells and the decommissioning of attendant facilities and pipelines. There would be no added infrastructure as a result of the project that could be subject to vandalism, and the Project would not directly or indirectly generate population growth or otherwise increase demand for police protection. As such, the Project would not

result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities. There would be no impact.

iii) Schools?

No Impact. As discussed in Section 4.14, *Population and Housing*, the proposed Project would not directly or indirectly result in a population increase since it would rely on existing company and contractor resources. As a result, enrollment within the school system would not be affected, and the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities. Therefore, there would be no impact.

iv) Parks?

No Impact. As discussed in Section 4.14, *Population and Housing*, the proposed Project would not directly or indirectly result in a population increase. Therefore, the proposed Project would not increase the use of parks, contribute to the deterioration of existing parks, or require new or expanded parks. Therefore, no impact would occur.

v) Other public facilities?

No Impact. As discussed in Section 4.14, *Population and Housing*, the proposed Project would not directly or indirectly contribute to population growth. As a result, there would be no increase in demand pertaining to public facilities, such as postal services or libraries. Therefore, there would be no impact.

4.15.4 Mitigation Measures

The Project would not result in significant impacts to public services; therefore, no mitigation is required.

4.16 RECREATION

RECREATION – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.16.1 Environmental Setting

The well sites are surrounded by oil and gas infrastructure and are not located within recreational facilities. Further, there are no neighborhood or regional parks within close proximity to any of the well sites.

4.16.2 Regulatory Setting

There are no federal or state regulations, laws, or policies pertaining to recreation that are relevant to the Project. Local regulations, laws, and policies pertaining to recreation relevant to the Project are included below.

4.16.2.1 Local

Kern County General Plan (2009)

Chapter 1: Land Use, Open Space, and Conservation Element

Goal 12: Provide a balanced system of parks and recreational facilities to meet Kern County's diverse needs, and clearly define responsibility for the provision of these facilities.

Goal 13: Provide a variety of park and recreation programs that offer safe, equitable, and balanced recreation opportunities for all residents and visitors.

Metropolitan Bakerfield General Plan. The MBGP Land Use Element contains the following goals for recreational facilities in the City of Bakersfield.

> **Goal 50:** Coordinate with the appropriate agencies so that adequate land and facilities are set aside for schools, parks, police/fire, libraries, cultural facilities, recreational facilities and other service uses to serve the community.

4.16.3 Impact Analysis

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

No Impact. The deterioration of neighborhood and regional parks or other facilities within an area is expedited by increased use, prompted by population growth. As discussed in Section 4.14, *Population and Housing*, the proposed Project would not directly or indirectly result in a population increase. The Project would not require the use of park facilities, such as park roads or trails. Therefore, there would be no impact.

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

No Impact. The proposed Project does not include or require the construction or expansion of recreational facilities. As discussed in Section 4.14, *Population and Housing*, the Project would not result in population increases within the area. Therefore, there would be no impact.

4.16.4 Mitigation Measures

The project would not result in significant impacts to recreational facilities; therefore, no mitigation is required.

4.17 TRANSPORTATION

TRANSPORTATION – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a Project, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

4.17.1 Environmental Setting

The Fruitvale Oil Field is located approximately 2.0 miles north of Rosedale Highway and approximately 0.5 miles south of California SR 58. The Semitropic Oil Field is approximately 0.5 miles southwest of SR 46. The Mountain View Oil Field is approximately 0.5 miles east of SR 184. The Edison Oil Field is approximately 0.2 miles of Malaga Road. All wells are accessible by various State routes and highways which provide regional access. Circulation within each oil field consists of a network of unpaved private roads that provide access to the individual well sites.

4.17.2 Regulatory Setting

There are no federal laws, regulations, or policies potentially applicable to the project relevant to transportation. State and local laws, regulations and policies pertaining to transportation relevant to the project are included below.

4.17.2.1 State

California Department of Transportation Regulations. Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety

requirements for oversized vehicles that operate on California highways. Kern County is under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to the potential transportation impacts of the Project:

- California Vehicle Code, Division 15, Chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; and
- California Street and Highway Code, Sections 660-711, 670-695. Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and County highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

These State regulations would relate to the hauling of heavy equipment and materials to the Project during construction. Trucking companies delivering or accessing the well sites must comply with these regulations.

4.17.2.2 Local

Kern County General Plan (2009). The Circulation Element (2009) contains the following policies relevant to transportation:

> **Policy 1**: Caltrans should be made aware of the heavy truck activity on Kern County's roads.
>
> **Policy 2**: Start a program that monitors truck traffic operations.
>
> **Policy 3**: Promote a monitoring program of truck lane pavement condition.

Metropolitan Bakerfield General Plan. The MBGP Circulation Element contains the following goals for streets in the City of Bakersfield.

> **Goal 2:** Provide for safe and efficient motorized, non-motorized, and pedestrian traffic movement.
>
> **Goal 3:** Minimize the impact of truck traffic on circulation, and on noise sensitive land uses.

4.17.3 Impact Analysis

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant. Construction-related vehicle trips would include construction workers traveling to and from each well site and trucks associated with equipment and material deliveries. Closures of area roadways would not be required during Project construction, and construction equipment and worker vehicles would be staged on site or adjacent to the Project well sites on flat terrain. Given that permanent sealing and decommissioning activities would be short-term and temporary, trips would account for a relatively small portion of existing traffic on area roadways, and Project related traffic impacts would not be substantial. Therefore, the Project would not conflict with an applicable program, plan, ordinance, or policy addressing the circulation system and impacts would be less than significant.

The Project would not include an operational phase since the Project would result in the P&A of 18 orphan wells. Therefore, other than temporary permanent sealing and decommissioning activities, the project would not result in an increase in traffic to and from the well sites and would not include any new or modified land uses that would generate long-term vehicle trips or other features that would affect the local or regional circulation. Thus, the Project would not conflict with an applicable circulatory program, ordinance, or policy and impacts would be less than significant.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant. *CEQA Guidelines Section* 15064.3(b) indicates that VMT is the most appropriate measure for transportation impacts. In December 2018, the California Governor's Office of Land Use and Climate Innovation (formerly the Office of Planning and Research) provided an updated Technical Advisory to assist in the evaluation of transportation impacts under CEQA. In particular, the Technical Advisory provides that a project generating or attracting fewer than 110 one-way trips per day generally may be assumed to cause a less than significant transportation impact (California Governor's Office of Land Use and Climate Innovation 2018). Approximately 78 one-way trips would occur per day during P&A activities, and approximately 42 one-way trips would occur per day during decommissioning activities (Appendix B). These temporary trips would not substantially increase long-term VMT in the area. The proposed Project would not require additional vehicle trips once completed, and therefore would not

result in a long-term increase in regional VMT. Therefore, the proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). This impact would be less than significant

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

No Impact. Project activities would not occur on public roadways and would not involve any roadway modifications or incompatible uses that would increase traffic hazards. Therefore, there would be no impact.

d) Result in inadequate emergency access?

Less than Significant. The Project would not require road closures and would not interfere with access to area roadways. Seventeen of the 18 well locations are located in private oil fields, and one well is not located in an oil field, all of which are accessible by private entry, away from public roadways. During permanent sealing and decommissioning activities, equipment and vehicles would be staged on site and on flat terrain and would not generate a substantial amount of construction vehicle trips. The Project would include the P&A and decommissioning of 18 wells and would not result in increases in vehicle trips that would lead to inadequate emergency access. Therefore, this impact would be less than significant.

4.17.4 Mitigation Measures

The Project would not result in significant transportation impacts; therefore, no mitigation is required.

4.18 TRIBAL CULTURAL RESOURCES

TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of historical resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

4.18.1 Environmental Setting

As discussed in Section 4.5, *Cultural Resources*, a records search and SLF search were conducted for this project in January 2025.

Additionally, the SLF search results provided by the NAHC on January 7, 2025, were negative, indicating no sacred lands have been reported within the project site or its vicinity. As the CEQA lead agency, CalGEM conducted Assembly Bill (AB) 52 consultation.

4.18.2 Regulatory Setting

Under AB 52, lead CEQA agencies must avoid damaging effects on tribal cultural resources, when feasible, whether consultation occurred or is required.

4.18.3 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

I. Listed or eligible for listing in the California Register of historical resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

II. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant With Mitigation. As part of the Proposed Project, CalGEM in accordance with AB 52, sent notification to tribes on October 10-14, 2024. GalGEM received only one response requesting a meeting from the Santa Ynez Band of Chumash Indians. A meeting was then held on 4-16, 2025 regarding the Proposed Project. No further requests for meetings or consultations were received. Therefore, the Proposed Project will move forward without Tribal consultation and oversight, but with awareness training and cultural monitoring during ground disturbance as discussed below.

The potential for adverse impacts to tribal cultural resources is considered low. Adherence to **MM TRI-1** would ensure a sensitivity training program is

conducted and followed, informing workers of procedures to follow in case of unanticipated discovery. **MM CUL-1** would provide standard procedures to follow in the event unanticipated archaeological resources are discovered and **MM CUL-2** would ensure work is temporarily halted if and when human remains were discovered, and all federal, state, and local guidelines would be adhered to. Therefore, impacts would be less than significant with mitigation.

MM TRI-1: Tribal Cultural Sensitivity Training Program: All project employees conducting work in the Project area identified in the Project Description, including the road access areas, shall complete a Cultural Sensitivity Training Program including training dedicated to tribal resources protection.

MM CUL-1: Unanticipated Discovery of Cultural Resources. In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR, and significant impacts to the resource cannot be avoided via Project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of CCR Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance.

MM CUL-2: Unanticipated Discovery of Human Remains. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an

unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD), and as determined by the Native American Heritage Commission (NAHC) should those findings be determined as Native American in origin. The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.

4.18.4 Mitigation Measures

Implementation of the following MMs would reduce potential tribal cultural resource impacts to less than significant:

- TRI-1: Tribal Training
- CUL-1: Unanticipated Discovery of Cultural Resources
- CUL-2: Unanticipated Discovery of Human Remains

4.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

4.19.1 Environmental Setting

The Project includes permanent sealing and decommissioning of 18 orphan wells located within five different oil fields in Kern County, one of the 18 wells is not located on an oil field. Oil and gas activities within Kern County utilize a

combination of sources to satisfy the water demand for such activities. The water and sewer purveyor for this area is California Water Service (CWS).

CWS is the largest municipal water supplier in Kern County, providing drinking water to Bakersfield and the surrounding area. CWS sources its water from a combination of groundwater, Kern River Water, and purchased water from the Kern County Water Agency (KCWA) (Water Association of Kern County 2024). KCWA maintains a positive banked water balance which allows it to meet water demands even in dry years.

Waste materials would be properly disposed of as non-hazardous waste or hazardous waste, as appropriate. All cuttings and cement returns would be collected and trucked for proper disposal to the Bena Landfill and the Shafter-Wasco Landfill. The Bena Landfill is located approximately 14 miles east of the Fruitvale Oil Field, six miles southwest of the Mountain View Oil Field, and four miles southwest of the Edison Oil Field. The Shafter-Wasco Landfill is located approximately 15 miles southwest of the Elk Ridge 1-20 well and 11 miles southeast of the Semitropic Oil Field. The remaining capacity of the Bena Landfill is approximately 7.9 million tons with an expected closure date of December 2053. The remaining capacity of the Shafter-Wasco Landfill is approximately 32 million tons with an expected closure date of April 2046.

4.19.2 Regulatory Setting

There are no federal laws, policies, or regulations applicable to the proposed Project relevant to utilities and service systems. State and local laws, policies, and regulations pertaining to utilities and service systems relevant to the Project are included below.

4.19.2.1 State

Sustainable Groundwater Management Act. SGMA (Water Code Section 10720 et seq.) and related amendments require that all groundwater basins designated as high- or medium-priority in the CDWR California Statewide Groundwater Elevation Monitoring program and that are subject to critical overdraft conditions must be managed under a new GSP, or a coordinated set of GSPs, by January 31, 2020. High- and medium-priority basins that are not subject to critical overdraft conditions must be managed under a GSP. Where GSPs are required, one or more local GSAs must be formed to cover the basin and prepare and implement applicable GSPs. SGMA does not apply to basins that are managed under a court-approved adjudication, or to low-or very–low-priority basins.

SGMA defines groundwater as "water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water but does not include water that flows in known and definite channels." A groundwater extraction facility is defined as "a device or method for extracting groundwater from within a basin" Water Code Section 10721(g-h).

California Integrated Waste Management Act (AB 939). California adopted its first statewide, general recycling program in 1989. The Integrated Waste Management Act of 1989 (PRC 40050 et seq. or AB 939, codified in PRC 40000), administered by the California Department of Resources, Recycling, and Recovery requires all local and County governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills.

4.19.2.2 Local

Kern County General Plan (2009). The General Plan Land Use, Open Space and Conservation Element contains the following provisions and policies relevant to utilities and service systems:

Chapter 1: Land Use, Open Space, and Conservation Element

1.10.1 – General Provisions, Public Services, and Facilities

Policy 3: Individual projects will provide availability of public utility service as per approved guideline of the serving utility.

Policy 13: The County shall ensure landfill capacity for the residents and industry of Kern County.

1.10-1 – General Provisions, Public Services, and Facilities

Policy 12: All methods of sewage disposal and water supply shall meet the requirements of the Kern County Public Health Services Department and the California Regional Water Quality Control Board. The County's Public Health Services Department shall periodically review and modify, as necessary, its requirements for sewage disposal and water supply, and shall comply with any new standards adopted by the State for implementation of Government Code Division 7 of the Water Code, Chapter 4.5 (Section 13290-13291.70 (Assembly Bill 885) (2000).

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by CEQA documents,

staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Metropolitan Bakersfield General Plan: MBGP contains the following provisions and policies relevant to utilities and service systems:

- Develop and maintain facilities for groundwater recharge in the planning area.
- Minimize the loss of water which could otherwise be utilized for groundwater recharge purposes and benefit planning area groundwater aquifers from diversion to locations outside the planning area.
- Support programs to convey water from other than San Joaquin Valley basin sources to the planning area.
- Support programs and policies which assure continuance or augmentation of the Kern River surface water supplies.
- Work toward resolving the problem of groundwater resources deficiencies in the upland portion of the planning area.
- Protect planning area groundwater resources from further quality degradation.
- Provide substitute or supplemental water resources to areas already impacted by groundwater quality degradation by supporting facilities construction for surface water diversion.
- Encourage and implement water conservation measures and programs.

4.19.3 Impact Analysis

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Project would require approximately 1,000 gallons of water during permanent sealing and decommissioning activities, but would not require water infrastructure. The Project does not involve the addition of wastewater infrastructure, stormwater drainage infrastructure, electric infrastructure, natural gas infrastructure, or telecommunications infrastructure. Therefore, no impact would occur.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant. KCWA maintains a positive banked water balance which allows it to meet water demands even in dry years. Water use would be minimal (approximately 1,000 gallons of water per day, primarily for fugitive dust control) and would only occur during permanent sealing and decommissioning activities. Accordingly, the minimal, temporary water use utilized by the proposed Project would be adequately served by existing water supplies via a water truck at the Project site. This impact would be less than significant.

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

Less than Significant. The proposed Project would not require services from the local wastewater treatment provider. During permanent sealing and decommissioning activities, portable sanitary facilities would be brought to the Project site by the Project proponent, as necessary. Sanitary waste generated within the Project area would be transported off site to a local wastewater treatment facility for proper treatment. Solid waste generated from permanent sealing and decommissioning would be temporary in nature and as discussed in Threshold 4.19(d), the Bena and the Shafter-Wasco Landfills have remaining capacities sufficient for construction related generated solid waste. Impacts would be less than significant.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant. The proposed Project would result in limited volumes of solid waste requiring disposal at a licensed disposal facility. In accordance with state and federal regulations, only drilling fluids and additives classified as non-hazardous would be used and disposed of. Prior to removal, subsurface pipelines would be cleaned to remove any hydrocarbons and be filled with an inert

substance (water or nitrogen) with a cap welded on its end(s). The pipelines would have very little to no gas inside of them since they would be depressurized.

All cuttings, cement returns, and drilling fluid would be collected and transported to the Bena Landfill located in Bakersfield, to the east of the well sites located in the Fruitvale, Mountain View, and Edison Oil Fields, for proper disposal. Similarly, waste generated from permanent sealing and decommissioning activities from the Elk Ridge well and Semitropic Oil Field would be collected and transported to the Shafter-Wasco Landfill. According to the California Department of Resource, Recycling, and Recovery (CalRecycle), the Bena Landfill and the Shafter-Wasco Landfill have a remaining capacity of 7.9 million tons and 32 million tons, respectively capable to meet demand through 2046 and 2053, respectively (CalRecycle 2024a; 2024b); therefore, both landfills have adequate remaining capacity to accept waste from Project activities. Therefore, impacts would be less than significant.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than Significant. A small amount of solid waste would be generated as a result of the permanent sealing and decommissioning of well facilities. Solid waste (outside of what is recyclable) resulting from the proposed project would consist of deserted tank(s), container debris, and other remnants of facilities which would be disposed of at an approved landfill in accordance with local, state, and federal laws and regulations as required by the Project. Project operation would not result in the generation of solid waste; therefore, any increase in solid municipal waste would be limited and a temporary occurrence. Impacts would be less than significant.

4.19.4 Mitigation Measures

The Project would not result in significant impacts to utilities and service systems; therefore, no mitigation is required.

4.20 WILDFIRE

WILDFIRE – If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

4.20.1 Environmental Setting

According to CAL FIRE, only the Elk Ridge 1-20 well site is located within or near an SRA (High Hazard) or lands classified as high fire hazard severity zones. All 17 other well sites are located outside of areas identified by CAL FIRE as having a substantial or very high fire risk for wildfires to occur and are located in a LRA (CAL FIRE 2024). In addition, the Kern County FHSZ Maps for the LRA identify the site areas as Unzoned. SRAs are typically wildland supporting areas of low fire frequency and relatively modest fire behavior.

4.20.2 Regulatory Setting

There are no federal laws, regulations, or policies pertaining to wildfire that are relevant to the proposed Project. State and local regulations, laws, and policies pertaining to wildfire relevant to the Project are included below.

4.20.2.1 State

California Public Resources Code. PRC Sections 4442 and 4428 include fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire, require the use of spark arrestors on construction equipment that use an internal combustion engine, specify requirements for the safe use of gasoline-powered tools in fire hazard areas, and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas. These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).
- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC Section 4428).

4.20.2.2 Local

Kern County General Plan. The Safety Element contains the following policies related to wildfire applicable to the proposed Project:

Chapter 4: Safety Element

4.6 – Wildland and Urban Fire

Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.

Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the fire department.

Kern County Multi-Jurisdictional Hazard Mitigation Plan. The purpose of the Kern County Multi-Jurisdictional Hazard Mitigation Plan is to reduce or eliminate long-term risks to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This Plan includes Kern County and the incorporated municipalities of Arvin, Bakersfield, California City, Delano,

Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The Plan also covers 53 special districts that include school, recreation and park, water, community service, and other districts. The Plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (Kern County 2021.

Metropolitan Bakersfield General Plan. MBGP contains the following policies relevant to wildfire applicable to the proposed Project:

Chapter VII: Safety/Public Safety

Policy 3: Adopt uniform metropolitan area standards for fire and police services, and undertake continuing metropolitan area-wide planning programs for public safety facilities.

Policy 6: Promote fire prevention methods to reduce service protection costs and costs to the taxpayer.

Policy 9: Restrict, after appropriate public hearings, the use of fire-prone building materials in areas defined by the fire services as presenting high-conflagration risk.

4.20.3 Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. As described in Section 4.9, *Hazards and Hazardous Materials*, no lane and road closures are proposed as part of temporary permanent sealing and decommissioning activities as all circulation would be contained within private access roads within established oil fields. The short-term and minimal use of construction equipment would not result in substantial increases in traffic and therefore would not impact existing evacuation routes. The proposed Project would not conflict with or impede the implementation of the goals or action items included within the KCGP, MBGP, or the Kern County MJHM. Therefore, the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

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

Less than Significant. All 18 wells are located on relatively flat terrain subject to northwesterly winds. As such, these winds could push potential wildfire and

wildfire smoke to areas with residential development, thereby exposing nearby residences to pollutant concentrations associated with wildfire. However, construction personnel would be required to comply with applicable PRC and local regulations to minimize fire risk. These regulations include the use of spark arrestors in construction equipment and removal of combustible debris prior to permanent sealing and decommissioning activities.

Water would be available during hot work to reduce potential for fires and other hot-work related issues. All cutting and welding would comply with California Fire Code 3305.6 and National Fire Protection Association 51B and a Fire Watch procedure would conform to California Fire Code 3305.5. The Project proponent would be responsible for maintaining fire extinguishers in accordance with California Fire Code 3315 and 906 as well as monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire. Construction personnel would be required to apply with applicable PRC and local regulations to minimize fire risk, and removal of combustible debris prior to permanent sealing and decommissioning activities. Compliance with these regulations would reduce the potential for a fire to occurring during Project activities and therefore reduce the potential to expose residents to pollutant concentrations from wildfire. Therefore, the proposed Project would not exacerbate wildfire risk due to slope and prevailing winds which could expose occupants to substantial pollutant concentrations or the uncontrolled spread of a wildfire. This impact would be less than significant.

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

No Impact. The proposed Project would not require the installation or maintenance of roads, fuel breaks, emergency water sources, power lines, or other utilities and therefore would not exacerbate the fire risks associated with this infrastructure. No impact would occur.

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

Less than Significant. As described in Section 4.10, *Hydrology and Water Quality*, the Fuller Acres 2 and Greer 1 well sites are within special flood hazard area (Zone AO) and all other wells are located in areas with minimal flood hazard (Zone X).. As described in Section 4.7, *Geology and Soils,* none of the wells are

located within an area susceptible to landslides. The proposed Project would require minimal ground disturbing activities over approximately 10,000 sf at each well location, and prior to plugging and abandoning, the graded soil would be compacted to stabilize the soil surface, thereby reducing the potential for soil instability. As described in Threshold 4.20(b), permanent sealing and decommissioning activities would occur in compliance with applicable PRC and local regulations to minimize fire risk. Compliance with these regulations would reduce the potential for a fire to occur during Project activities and therefore reduce the potential for significant landslide risk as a result of post-fire slope instability. With adherence to applicable regulations, the proposed Project would not exacerbate or expose people or structures to significant risks including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. This impact would be less than significant.

4.20.4 Mitigation Measures

The Project would not result in significant wildfire impacts; therefore, no mitigation is required.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE –	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects.)	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The proposed Project is limited to activities that would occur at each well site. Therefore, the proposed Project would not impact the total mapped habitat of a species. The proposed Project does not include large-scale activities which threaten to eliminate species or the entirety of their habitats. Due to its scale, the proposed Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. This impact would be less than significant.

As discussed in Section 4.5, *Cultural Resources*, there are no historical resources located at the well sites and the Project would not cause a substantial change in the significance of a historic resource. There is a low potential to encounter archaeological resources at the well sites, as the wells have been previously disturbed and minimal grading is required. With the implementation of **MM CUL-1** and **MM CUL-2**, the Project would implement standard procedures for evaluation, consultation, avoidance, and data recovery of unanticipated archaeological resources. Because no important examples of the major periods of California history or prehistory are known to be present at the well sites, the Project would not eliminate important examples of the major periods of California history or prehistory. This impact would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects.)

As described in Sections 4.1 through 4.20, with respect to all environmental issues, the proposed Project would either have no impact, a less than significant impact, or impacts would be reduced to a less than significant level with implementation of required mitigation. Cumulatively considerable impacts could occur if the construction or operation of other projects coincides with the proposed Project in the same vicinity of the Project site, such that similar impacts of multiple projects combine to expose a resource to greater levels of impacts than what would occur in accordance with the proposed Project. Where it was determined the Project would have no impact (i.e., aesthetics, agriculture and forestry resources, noise, mineral resources, land use and planning, population and housing, utilities and service systems, wildfire) no cumulative operational impacts would be exacerbated to these issue areas as a result of the proposed Project. In addition, certain resource areas (e.g., cultural resources, geology and

soils, hazards and hazardous materials, and tribal cultural resources) are by their nature specific to a project location such that impacts at one location do not add to impacts at other locations and therefore would not result in cumulative impacts.

The proposed Project involves short-term permanent sealing and decommissioning activities and therefore would not contribute to long-term cumulative impacts to increases in waste use, wastewater generation, solid waste generation, or VMT. The significance of project-specific air quality and GHG emissions impacts are dependent on a project's potential to contribute considerably to cumulative air quality and GHG emissions. As evaluated in Sections 4.3, *Air Quality*, and 4.8, *Greenhouse Gas Emissions*, the proposed Project would not generate cumulatively considerable criteria air pollutant emissions in excess of SJVAPCD thresholds or GHG emissions that would conflict with applicable plans, policies, or regulations to reduce GHG emissions. Therefore, the proposed Project's contribution to cumulative air quality and GHG emissions impacts would not be cumulatively considerable. Overlapping construction activities in local neighborhoods could result in cumulative noise and vibration impacts. However, because the proposed Project would not exceed County noise or vibration standards, the proposed Project would not contribute considerably to cumulative noise impacts.

Cumulative impacts from energy use could occur if cumulative development results in substantial wasteful energy use that would conflict with state or local energy policy. However, cumulative development, similar to the proposed Project, would adhere to energy regulations such as CCR Title 13 Sections 2449 and 2485 and the USEPA Construction Equipment Fuel Efficiency Standard. Adherence to these standards would ensure cumulative development would not wastefully, inefficiently, or unnecessarily consume energy resources. Therefore, cumulative energy impacts would be less than significant.

Cumulative impacts to hydrology and water quality could occur if cumulative development would introduce pollutants within the same watershed and receiving waters as the proposed Project. Similar to the proposed Project, cumulative projects would be required to adhere to the Stormwater Construction General Permit and implement an SWPPP and construction BMPs, which would reduce the generation of cumulative stormwater pollutants. With adherence to existing regulations to protect water quality, it is anticipated cumulative water quality impacts would be less than significant. Therefore, the proposed Project would not contribute considerably to cumulative water quality impacts.

Cumulative impacts related to land use could occur if cumulative development would physically divide an established community. The proposed Project does not include activities, such as construction of roads, that could physically divide the residential neighborhoods east of the Project site or otherwise physically divide any other established communities. Therefore, the proposed Project would not contribute considerably to cumulative land use impacts.

Cumulative development could result in impacts to public services and recreation if cumulative development would increase population such that additional public service buildings or parks and recreational facilities are required to serve the additional population. The proposed Project would not result in population growth and therefore would not place additional long-term demand for public services or parks and recreational facilities on the County or City. Therefore, the proposed Project would not contribute considerably to cumulative public services or recreation impacts.

Similar to the proposed Project, cumulative development could also result in impacts to biological resources and would be subject to similar regulatory requirements as the proposed Project, including FESA, CESA, and the Migratory Bird Treaty Act. These regulations are designed to protect individual species and their habitats. Cumulative projects would be required to abide by the provisions of these regulations and could potentially be subject to review from agencies including, but not limited to, CDFW and the USFWS, to ensure potential impacts to species or habitat are minimized. However, existing regulatory requirements alone cannot guarantee species loss, habitat loss, or other impact to biological resources due to cumulative development. The proposed Project would incorporate **MM BIO-1** through **MM BIO-12** to reduce potential impacts to biological resources to a less than significant level. As a result, the proposed Project would not have a cumulatively considerable contribution to cumulative impacts on biological resources.

The proposed Project would not have a cumulatively considerable contribution to cumulative impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant. Adverse effects on human beings are typically associated with air quality, hazards and hazardous materials, noise, and wildfire impacts. These impacts are addressed in Section 4.3, *Air Quality*, Section 4.9, *Hazards and Hazardous Materials*, Section 4.13, *Noise*, and Section 4.20, *Wildfire*. As discussed in detail in these sections, the proposed Project would result in less

than significant impacts related to air quality, hazards, noise, and wildfire. Therefore, the proposed Project would have a less than significant impact on human beings.

5.0 MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
MM BIO-1: Pre-disturbance Biological Survey Report	A pre-disturbance biological survey shall be conducted by a Qualified Biologist at each well site, including the entire anticipated workspace around each well. The pre-disturbance biological survey shall consist of walking belt transects to accomplish 100 percent coverage of the well site plus a 100-foot buffer. During the survey, all direct and indirect observations of special-status biological resources shall be noted if encountered and their location recorded using a handheld Global Positioning Satellite device and on field forms. Habitat shall be evaluated by the Qualified Biologist to determine the potential for biological resource monitoring and/or surveys for species that are seasonal or require focused surveys during specified periods (e.g., special-status plants, blunt-nosed leopard lizard). If the Qualified Biologist determines that no such follow-up surveys are required to determine current status of special-status biological resources on the well site, that information shall be included in the biological survey report to be completed within 14 days of the pre-disturbance survey. If follow-up surveys are required, a follow-up survey report	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	shall be completed by the Qualified Biologist and submitted to the Project proponent within 14 days of the follow-up survey. To meet seasonal requirements stipulated by Species Protocols, some surveys may be required more than 30 days prior to ground disturbances. In such cases, follow-up pre-disturbance surveys shall also be required within 30 days prior to initiation of the ground disturbance to confirm that no changes in species status or occupancy have occurred within the survey area. The Project proponent shall maintain copies of all pre-disturbance biological survey reports completed by the Qualified Biologist. The pre-disturbance biological survey report shall include a map of the proposed Project permanent sealing and decommissioning activities boundary, biological survey area, special-status species observations (when observed), areas of potential and/or occupied habitat (if any), areas identified for avoidance, and a list of all additional applicable mitigation measures that shall be implemented for the respective well site.			
MM BIO-2: Worker Environmental	A Qualified Biologist shall develop and implement a Worker Environmental Awareness Program (WEAP) for all personnel that may access the Project site. WEAP training shall be conducted for each	Prior to construction. Training records.	Submittal of WEAP program.	Kern County; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
Awareness Training	individual prior to their first access into the Project site. The Project shall consist of a presentation with material given on site or off site by trained personnel (e.g., Qualified Biologist or assigned Company Environmental Specialists). WEAP training shall cover an overview of the laws and regulations governing the protection of biological resources; a description and photographs/images of protected (i.e., special status) species known to occur or with the potential to occur; their status and legal protections; what is considered habitat and disturbance; biological resource protection measures; and a list of designated Qualified Biologist contacts. The Project proponent shall provide general awareness to workers and supply materials to assist workers in recognizing protected species that may occur, avoidance, and minimization measures to protect biological resources, and how to report biological resources if observed on site. The WEAP shall implement the following: 1. The WEAP shall emphasize the need to avoid contact with wildlife, to avoid entry into areas where biological resources have been identified for avoidance, to review Project specific pre-disturbance biological results reports and maps, and to		Submittal of training records.	

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	implement all applicable avoidance and minimization measures included in the Project specific pre-disturbance biological survey results report. 2. All Project personnel present on site must sign a statement verifying that they have completed the WEAP, and that they understand the biological requirements during Project activities. The Project proponent shall maintain a list of all persons who have completed the WEAP and shall provide the list to CalGEM upon request. 3. Should a worker identify what they believe to be a special status species during Project activities, work in that area shall stop and the Qualified Biologist shall be consulted. The Qualified Biologist shall determine if there is indeed a special status species present or likely to be impacted and identify the other mitigation measures that shall be implemented.			
MM BIO-3: Sensitive Reptile Species Avoidance	If the pre-disturbance biological survey (MM BIO-1) identifies the presence of Bakersfield legless lizards, coastal horned lizard, or any other special status reptile species within the Project site, the following measures shall be implemented.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	1. If any Bakersfield legless lizard, coastal horned lizard, or any other reptile species of special concern are observed During permanent sealing and decommissioning activities, the identified special-status reptiles shall be allowed to move out of the work area on their own or shall be removed from the work area and released in adjacent suitable habitat by the Qualified Biologist. The Qualified Biologist shall have all appropriate permits in place prior to handling any special-status reptiles or any other wildlife. 2. All construction equipment and construction personnel vehicles shall be checked prior to moving them, to ensure that no special-status reptile is under equipment/vehicles. If any individuals are detected beneath equipment or vehicles, the equipment or vehicles shall be left in place until the individual(s) moves out of harm's way on its own accord, as determined by a Qualified Biologist.	The survey report will contain avoidance and minimization measures as applicable.		
MM BIO-4: Blunt-Nosed Leopard Lizard Surveys and Avoidance	If the pre-disturbance survey (MM BIO-1) determines there is potential habitat present within the Elk Ridge 1-20 and ELKO 1 well sites (desert scrub/grassland and mammal burrows), protocol level surveys shall be conducted prior to the start of work. The Qualified Biologist shall conduct protocol	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	surveys in all areas within the well site and within 500 feet of access or permanent sealing and decommissioning-related disturbance that contain suitable habitat. Qualified Biologists shall perform these surveys according to the USFWS Approved Survey Methodology for the blunt-nosed leopard lizard (CDFW 2019). Pursuant to the protocol for Surveys for Disturbances for Maintenance Activities, the surveys shall be conducted for a total of 8 days between April 15 and July 15 during adequate weather conditions. If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW will be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.	The survey report will contain avoidance and minimization measures as applicable.		
MM BIO-5: Sensitive Mammal Species Avoidance	If the pre-disturbance biological survey (MM BIO-1) identifies the presence of Nelson's antelope squirrel, short-nosed kangaroo rat, Tulare grasshopper mouse, Giant Kangaroo rat, or any other special status mammal species within the proposed work area, the following measures shall be implemented. 1. Nelson's antelope squirrel, short-nosed kangaroo rat, Tulare grasshopper mouse, Giant Kangaroo rat, or any other special status mammal species or species sign are	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	detected during the pre-disturbance biological survey, all potential burrows shall be flagged by a Qualified Biologist and avoided for all permanent sealing and decommissioning activities. If burrows cannot be avoided, Project activities shall be delayed until protocol level surveys are conducted in line with agency recommendations. The Project will comply with all avoidance, minimization, and compensatory mitigation requirements set forth by the agency. 2. If Nelson's antelope squirrel is detected on or near the well site(s), the applicant shall consult with CDFW under CFGC Section 2081 to obtain take authorization for the species. The Project shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth by the agency. 3. All construction equipment and construction personnel vehicles shall be checked prior to moving them, to ensure that no special-status mammal species is under or in equipment/vehicles. If any individuals are detected beneath or in equipment or vehicles, the equipment or vehicles shall be left in place until the individual(s) moves out of harm's way on	The survey report will contain avoidance and minimization measures as applicable.		

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	its own accord, as determined by a Qualified Biologist. 4. All trenches/excavations more than two feet deep shall be covered or have ramps installed by the end of the workday to allow wildlife to escape.			
MM BIO-6: Giant Kangaroo Rat and Tipton Kangaroo Rat Surveys and Avoidance	If the pre-disturbance survey (MM BIO-1) determines there is potential kangaroo rat habitat present within the Elk Ridge 1-20, ELKO 1, or any of the other well sites, protocol level surveys shall be conducted prior to the start of work. The Qualified Biologist shall conduct USFWS protocol surveys in suitable habitat within the well site and all areas within 500 feet of access or permanent sealing and decommissioning-related disturbance areas. Qualified Biologists shall perform these surveys according to the USFWS Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats (USFWS 2013). If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW shall be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
MM BIO-7: San Joaquin Kit Fox Surveys and Avoidance	If the pre-disturbance survey (MM BIO-1) determines there is potential San Joaquin kit fox habitat present within any of the 18 well sites, protocol level surveys shall be conducted prior to the start of work. The Project proponent shall conduct USFWS protocol surveys in suitable habitat within the well site and all areas within 500 feet of access or permanent sealing and decommissioning-related disturbance areas. Qualified Biologists shall perform these surveys according to the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011). If the species is not detected during these surveys, no further action is required. If the species is detected, a Section 7 consultation and 2081 coordination with CDFW shall be required. The Project proponent shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM
MM BIO-8: Crotch's Bumble Bee Surveys and Avoidance	If, at the commencement of Project permanent sealing and decommissioning activities, Crotch's bumble bee is still considered a CESA candidate species or has been listed as threatened or endangered under CESA, the Project proponent shall implement the following measures to avoid,	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	minimize, and offset Project impacts to the species: • A Qualified Biologist shall conduct a pre-construction survey for Crotch's bumble bee and nests at Dillon 3, Dillon 2, E&H Dillon 1, Dillon 4, Red Ribbon Lease 1-2, Red Ribbon Lease 1-5, Red Ribbon Lease 1-7, Red Ribbon Lease 2-1, Red Ribbon Lease 2-2, Red Ribbon Lease 2-3, Red Ribbon Lease 2-4, and Tenneco 1. The survey shall focus on the areas with suitable nesting habitat and in all cases occur prior to initial ground-disturbing activities, such as staging and vegetation clearing. There shall be multiple surveys during the nesting season. The purpose of the surveys shall be to identify active nest colonies inside of permanent and temporary impact areas. • If active Crotch's bumble bee nests are observed within the well site or within a 50-foot buffer surrounding the site, an appropriate no-disturbance buffer (as determined by a Qualified Biologist) shall be established around the nest to reduce the risk of disturbance or accidental take. The buffer shall provide at least 50 feet of clearance around active nest entrances. (Note: inaccessible areas outside of the Project site can be surveyed using	The survey report will contain avoidance and minimization measures as applicable.		

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	binoculars from the Project edge or from public roads.) • If establishment of a no-disturbance buffer is feasible, permanent sealing and decommissioning activities shall not occur within the buffer until a Qualified Biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days, indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined to be inactive, construction activities within the no-disturbance buffer(s) shall be allowed to resume. • If avoidance of a no-disturbance buffer is not feasible, the lead biologist shall consult with CDFW regarding potential encroachment into the no-disturbance buffer with other measures implemented, as determined by CDFW. Work shall not begin in the no-disturbance buffer without CDFW approval. • If avoidance of the nest is not feasible, CalGEM in coordination with the lead Biologist shall consult with the CDFW regarding the potential for Project activities to result in take of the Crotch's bumble bee. In this circumstance, the			

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	Project proponent (and contractors) and CalGEM shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any incidental take permit issued for the Project by CDFW.			
MM BIO-9: Burrowing Owl Surveys and Avoidance	If the pre-disturbance survey (MM BIO-1) determines there is potential habitat present within the Project site or within 500 feet, protocol level surveys shall be conducted prior to the start of work. Qualified Biologists shall conduct protocol surveys in suitable habitat within the Project site and all areas within 500 feet of access or permanent sealing and decommissioning-related disturbance areas. If the species is not detected during these surveys, no further action is required. If a territory or burrow is confirmed during protocol surveys, CDFW shall be notified to determine whether authorization is necessary. No clearing of occupied habitat (as determined by the presence of active burrows or territory) shall occur during the breeding season (February–August). Clearing of occupied habitat during the non-breeding season shall be conducted only at the discretion of a Qualified monitoring Biologist and authorized by CDFW.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
MM BIO-10: Sensitive Plant Species Avoidance	If the pre-disturbance survey (MM BIO-1) determines that additional targeted plant surveys are required for the detection of special status plant species within the well site or a 50-foot buffer, rare plant surveys shall be conducted during the appropriate season for their detection, as determined by a Qualified Biologist or Botanist. If surveys for special-status plants occur in a year during which rainfall totals reach at least 80 percent of normal, survey results shall be considered valid for five years. For surveys conducted in years of less-than-ideal rainfall (less than 80 percent average rainfall), results shall be valid for only one year. A survey of appropriate reference populations shall be necessary to support survey findings for the Project site. If the pre-disturbance survey identifies special-status plant populations, the following measures shall be implemented: 1. Any special-status plant populations detected shall be fully described, well documented, and mapped via a Global Positioning Satellite device, and appropriately georeferenced on Project maps. For each population occurrence detected, a CNPS Field Survey Form or written equivalent shall be prepared.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	2. If pre-construction surveys detect the presence of any State-listed plant species, the plant populations shall be protected from disturbance activities by implementing applicable impact avoidance measures consistent with CNPS's mitigation guidelines (1998 or more current) and with recommendations in the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998). If impact avoidance measures have not been established for the species, plant populations shall be buffered from new ground disturbance activities by a minimum of 50 feet, as determined by a Qualified Biologist or Botanist. A smaller buffer may be established, provided there are adequate measures such as placement of a physical barrier (e.g., construction fencing) in place to avoid the destruction of individuals, with the approval of CalGEM. The buffer zone shall be established around these areas to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. A Qualified Biologist or Botanist shall be on site, at minimum, during initial ground			

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	disturbing activities to ensure that sensitive plant species are not impacted. 3. If any non-State listed special-status plants are identified that may be impacted by new ground-disturbing activities, populations shall be avoided, when possible, by a minimum 50-foot buffer zone as determined by a Qualified Biologist or Botanist. If non-State protected special-status plant species are unavoidable, up to 20 percent of a population or each discrete occurrence may be disturbed without further measures required. If greater than 20 percent of a population or each discrete occurrence would be destroyed, a Rare Plant Salvage and Restoration Plan shall be prepared by a Qualified Biologist or Botanist and submitted to CalGEM for approval. The plan shall include the following at a minimum: a. Relocation of individual plant(s) to an appropriate habitat area free from Project-related ground disturbance; b. Boundaries of non-State protected special-status plant species shall be geo referenced and mapped; c. Topsoil removed during site clearing where non-State protected special-			

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	status plant species are located shall be spread onto existing disturbed areas within the same geographic area and in the same soil type; d. Post-construction monitoring to confirm continued site occupancy by special-status plants affected by ground disturbance; and e. Adaptive management or other contingency measures; and/or weed management.			
MM BIO-11: Nesting Bird Pre-construction Surveys	A pre-disturbance nesting bird survey for active bird nests shall be conducted by a Qualified Biologist no more than 10 days prior to the start of any ground disturbances that shall take place during the bird nesting season (February 1 through August 31). Surveys shall follow USFWS and CDFW guidance and/or protocols, as applicable. If ground-disturbing activities were initiated prior to and continue into the bird nesting season, without a break in activity of more than one week, no nesting bird survey is necessary. If no active nests or nesting birds are identified during the pre-disturbance survey, then ground-disturbing activities may proceed, and no further mitigation shall be required for nesting birds.	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM. The survey report will contain avoidance and minimization measures as applicable.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	If active nests are identified, the following shall be included as part of the pre-disturbance active bird nest survey results report. Active bird nest(s) shall be avoided by establishing a minimum 250-foot non-disturbance buffer around it, a minimum 500-foot non-disturbance buffer around any active non-listed raptor nest(s), or a minimum 0.5-mile non-disturbance buffer around any federal or State-listed raptor nest(s) until the breeding season has ended. Non-disturbance buffers can be removed when a Qualified Biologist has determined that the birds have fledged, are no longer reliant on the nest or parental care for survival and adult birds are no longer occupying the nest, or the nest is no longer active (e.g., failed). Reduced non-disturbance buffers may be implemented if a Qualified Biologist concludes that work within the buffer area shall not be likely to cause nest avoidance or permanent sealing (e.g., when the disturbance area is concealed from a nest site by topography, when work activities shall have a limited duration within the buffer area, or when the species has been known to tolerate higher levels of disturbance). If reduced non-disturbance buffers are implemented, a Qualified Biologist shall monitor the active nest(s) before and			

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	during Project activities to establish a baseline for nest behavior and determine whether Project activities are adversely affecting the nest. The pre-disturbance monitoring of the nest site shall occur on at least two occasions of at least one hour each during anticipated work hours prior to Project activities to establish a behavioral baseline. The monitoring during Project activities shall be within the buffer area to detect behavioral changes of the birds because of the Project (e.g., adults flushed off the nest) that could lead to nest permanent sealing. If behavioral changes are observed, the work causing that change shall cease within the buffer area until the nest has fledged or is determined by the Qualified Biologist to no longer be active. The Qualified Biologist shall have the authority to halt or redirect Project activities to protect nesting birds. Any reduction of buffer areas for State or federal listed species during the nesting season must be authorized by CDFW and/or USFWS.			
MM BIO-12: Sensitive Natural Community Avoidance	If the pre-disturbance survey determines that a sensitive natural community is present within the Project footprint or a 50-foot buffer, the sensitive natural community shall be delineated with bright orange construction fencing under the direction of a Qualified Biologist. Fencing shall be installed prior to the	Prior to construction. Provide surveys conducted in accordance with mitigation requirements to CalGEM.	Results from the surveys must be submitted to the USFWS, CDFW and with the CalGEM submittal.	USFWS; CDFW; CalGEM

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	initiation of Project activities and shall remain in place until Project are complete. No vehicles, personnel, materials, or equipment will be allowed in protected areas.	The survey report will contain avoidance and minimization measures as applicable.		
MM TRI-1: Tribal Cultural Sensitivity Training Program	All project employees conducting work in the Project area identified in the Project Description, including the road access areas, shall complete a Cultural Sensitivity Training Program including training dedicated to tribal resources protection.	Prior to all construction activities.	All specific provisions of the mitigation and State law shall be implemented.	CalGEM; Native American Heritage Commission
MM CUL-1: Unanticipated Discovery of Cultural Resources	In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR, and significant impacts to the resource cannot be avoided via	During all construction activities. On site monitoring.	A. All work shall cease within 50 feet of the find. B. An unanticipated discovery plan shall be prepared and submitted. C. A qualified archaeologist shall evaluate any unanticipated site for significance and recommend appropriate treatment measures. D. The qualified archaeologist shall outline the recommendations	CalGEM; Native American Heritage Commission

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	Project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of CCR Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance.		for data recovery and curation in a report for submittal and review for the file. E. CalGEM shall determine if or when ground disturbing activities within 50 feet of the find can or cannot resume.	
MM CUL-2: Unanticipated Discovery of Human Remains	The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will	During all construction activities. On site monitoring.	All specific provisions of the mitigation and State law shall be implemented.	CalGEM; County Coroner; Native American Heritage Commission; Most Likely Descendant

Mitigation Measure # Mitigation Title	Mitigation Description	Timing and Method of Verification	Reporting	Responsible Agency
	determine and notify a most likely descendant (MLD), and as determined by the Native American Heritage Commission (NAHC) should those findings be determined as Native American in origin. The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.			

6.0 REFERENCES

6.1 BIBLIOGRAPHY

Bakersfield, City of. 2002. Metropolitan Bakersfield General Plan. Accessible at https://content.civicplus.com/api/assets/6c7a0380-7841-40d6-b3ef-23ceb4fa0fd7 (accessed October 2024).

California Air Resources Board (CARB). 2024. Overview: Diesel Exhaust and Health. Accessible at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health (accessed March 2024).

_____. 2022a. 2022 Scoping Plan for Achieving Carbon Neutrality. Accessible at: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf (accessed December 2024).

_____. 2022b. 2022 Scoping Plan Appendix D Local Actions. Accessible at: https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf (accessed December 2024).

California Department of Conservation. 2025. Geologic Energy Management Divisions (CalGEM) Online Mapping Tool. Well Finder Powered by WellSTAR. Accessible at: https://www.conservation.ca.gov/calgem/Pages/wellfinder.aspx (accessed February 2025).

California Department of Conservation (DOC). 2023a. California Important Farmland Finder. Accessible at: https://maps.conservation.ca.gov/DLRP/CIFF/ (accessed March 2024).

_____. 2023b. California Williamson Act Enrollment Finder. Accessible at: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html (accessed December 2024).

_____. 2022. EQZ App. Accessible at: https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed December 2024).

California Department of Finance. 2024. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2023. Accessible at: https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/ (accessed December 2024).

California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database, Rarefind-5. V.5.3.0. Accessible at: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data (accessed October 2024).

_____. 2023. California Natural Community Conservation Plans [map]. August 2023. Accessible at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline (accessed December 2024).

_____. 2019. Approved Survey Methodology For The Blunt-Nosed Leopard Lizard. Accessible at: https://www.fws.gov/sites/default/files/documents/survey-protocols-for-the-blunt-nosed-leopard-lizard.pdf (accessed October 2024).

California Department of Forestry and Fire Protection (CAL FIRE). 2023. FHSZ Viewer. Accessible at: https://egis.fire.ca.gov/FHSZ/ (accessed December 2024).

California Department of Resources, Recycling, and Recovery (CalRecycle). 2024a. Shafter-Wasco Landfill (15-AA-0057). Accessible at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/3891?siteID=705 (accessed October 2024).

_____. 2024b. Bakersfield Metropolitan (Bena) (15-AA-0273). Accessible at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/3931?siteID=742 (accessed October 2024).

California Department of Toxic Substances Control (DTSC). 2024. EnviroStor. Accessible at: https://www.envirostor.dtsc.ca.gov/public (accessed October 2024).

California Department of Transportation (Caltrans). 2024. California State Scenic Highway System Map. Accessible at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed March 2024).

_____. 2020. Transportation and Construction Vibration Guidance Manual. Accessible at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed March 2025).

California Department of Water Resources (DWR). 2020. 2020 Urban Water Management Plan. Kern Valley District Accessible at: https://www.calwater.com/docs/uwmp2020/KRV_2020_UWMP_FINAL.pdf (accessed October 2024).

California Energy Commission. 2024. Gas Consumption by County. Accessible at: http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed December 2024).

_____. 2023. California Annual Retail Fuel Outlet Report Results (CEC-A15). Accessible at: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed December 2024).

California Geological Survey. 2002. Note 36 – California Geomorphic Provinces. Accessible at: https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf (accessed March 2025).

California Governor's Office of Planning and Research. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Accessible at: https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf (accessed March 2025).

California Native Plant Society (CNPS). 2024. Online Inventory of Rare and Endangered Plants. Accessible at: https://rareplants.cnps.org/ (accessed October 2024).

California Natural Resources Agency. 2019. California's Fourth Climate Assessment Statewide Summary Report. Accessible at: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf (accessed March 2025).

California State Mining Geology Board. 2011. Designation of Regionally Significant Aggregate Resources in the Bakersfield Production-Consumption Region. Accessible at: https://www.conservation.ca.gov/smgb/reports/Documents/Designation_Reports/Bakersfield%20Designation%20Report%20FINAL.pdf (accessed March 2025).

Davenport, C.W., T.E. Dawson, W.D. Haydon, C.A. Hayhurst. 2011. Geologic map of Quaternary surficial deposits in southern California: Tehachapi 30' x 60' quadrangle. California Geological Survey. CGS Special Report 217, Plate 20, scale 1:100,000.

Federal Emergency Management Agency. 2024. FEMA Flood Map Service Center. Accessible at: https://msc.fema.gov/portal/search? (accessed December 2024).

Federal Highway Administration. 2011. Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025). Accessible at: https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf (accessed March 2025).

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Accessible at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed March 2025).

Haydon, W.D. and C.A. Hayhurst. 2011. Geologic map of Quaternary surficial deposits in southern California: east half of the Taft 30' x 60' quadrangle. California Geological Survey. CGS Special Report 217, Plate 19, scale 1:100,000.

Holm, Lisa and Thomas L. Jackson 2011. Archaeological Survey Report for the Regulus Solar Project, Kern County, California. On file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield.

Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. Accessible at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf (accessed December 2024).

Jefferson, G.T. 2010. A catalogue of late Quaternary vertebrates from California. Natural History Museum of Los Angeles County Technical Report. Volume 7, pp. 5-172.

Kern, County of. 2021. Kern Multi-Jurisdictional Hazard Mitigation Plan. Accessible at https://mitigatehazards.com/county-of-kern/kern-hmp-docs/ (accessed March 2025).

_____. 2012. Airport Land Use Compatibility Plan. Accessible at: https://shafter.com/DocumentCenter/View/5050/Airport-Land-Use-Compatibility-Plan (accessed March 2025)

_____. 2009. General Plan. Accessible at https://psbweb.kerncounty.com/planning/pdfs/kcgp/KCGP_Complete.pdf (accessed October 2024).

Kern County Fire Department. 2024. About the Kern County Fire Department. Accessible at: https://kerncountyfire.org/about-kcfd/ (accessed March 2025).

Kern County Subbasin. 2024. Groundwater Sustainability Plan. Accessible at https://kerngsp.com/wp-content/uploads/2024/12/Kern-Subbasin-2024-Groundwater-Sustainability-Plan.pdf (accessed December 2024).

NETR Online. 2025. Historic aerials and topographic maps of the resource and surrounding area. Electronic resource, accessed February 2025, https://www.historicaerials.com/viewer.

Paleobiology Database. 2024. PBDB Data Service: List of Fossil Occurrences. Accessible at:

http://paleobiodb.org/data1.2/occs/list.csv?datainfo&rowcount&cc=US&state=california (accessed October 2024).

Parr, Robert E. and Richard Osborne 1992. Archaeological Survey Report for the Proposed Route Adoption Study on Highway 58, Bakersfield, Kern County, California. On file at the Southern San Joaquin Valley Information Center, California State University, Bakersfield.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2024a. Ambient Air Quality Standards & Attainment Status. Accessible at: https://ww2.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/ (accessed December 2024).

_____. 2024b. 2024 Plan for the 2012 PM2.5 Standard. Accessible at: https://ww2.valleyair.org/rules-and-planning/air-quality-plans/particulate-matter-plans/2024-plan-for-the-2012-pm25-standard/ (accessed December 2024).

_____. 2022. 2022 Ozone Plan for the San Joaquin Valley. Accessible at: https://ww2.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2022-ozone-plan-for-the-san-joaquin-valley/ (accessed December 2024).

_____. 2015. Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). Accessible at: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF (accessed December 2024).

Sapphos Environmental, Inc. 2024a. Mountain View Well P&A and Facility Decommissioning Sites Biological Assessment. September 2024.

_____. 2024b. Griffin Resources K.C.L Facility Well P&A and Facility Decommissioning Sites Biological Assessment. July 2024.

Smith, A.R. 1964 Geologic map of California: Bakersfield sheet. [map.] California Division of Mines and Geology. Geologic Atlas of California GAM-02, scale 1:250,000.

Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Accessible at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf (accessed October 2024).

State Water Resources Control Board (SWRCB). 2024a. GeoTracker. Accessible at: https://geotracker.waterboards.ca.gov/ (accessed October 2024).

_____. 2024b. GeoTracker. ROSEDALE PROPERTIES (T0602900243) Accessible at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0602900243 (accessed October 2024).

_____. 2024c. GeoTracker. ATLANTIC OIL (T0602900293)Accessible at: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0602900293 (accessed October 2024).

United States Department of Agriculture. 2024. Web Soil Survey. Accessible at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (accessed October 2024).

_____. 2017. National Soil Survey Handbook, title 430-VI. Accessible at: https://directives.sc.egov.usda.gov (accessed October 2024).

United States Environmental Protection Agency (USEPA). 2024. Health Effects of Ozone and Particulate Matter. Accessible at: https://www.epa.gov/advance/health-effects-ozone-and-particulate-matter (accessed December 2024).

United States Fish and Wildlife Service (USFWS). 2024a. Information, Planning, and Conservation Online Tool. Accessible at: https://ipac.ecosphere.fws.gov (accessed April 2024).

_____.2024b. Designated Critical Habitat Portal. Accessible at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html (accessed April 2024).

_____. 2013. Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats. Accessible at: https://www.fws.gov/media/survey-protocol-determining-presence-san-joaquin-kangaroo-rats (accessed October 2024).

_____. 2011. Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance. Accessible at: https://www.fws.gov/media/standardized-recommendations-protection-endangered-san-joaquin-kit-fox-prior-or-during-ground (accessed October 2024).

_____. 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Accessible at: https://www.fws.gov/node/68609 (accessed October 2024).

United States Geological Survey (USGS). 2024. U.S. Quaternary Faults. Accessible at: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf (accessed October 2024).

University of California Museum of Paleontology. 2024. UCMP online database specimen search portal, http://ucmpdb.berkeley.edu/ (accessed November 2024).

Weissman et al. 2005. Factors controlling sequence development on Quaternary fluvial fans, San Joaquin Basin, California, USA. Accessible at:

https://www.researchgate.net/publication/227854702_Factors_controlling_sequence_development_on_Quaternary_fluvial_fans_San_Joaquin_Basin_California_USA (accessed March 2025).

The Xerces Society (Xerces). 2024. Bumble Bee Watch. Accessible at: https://www.bumblebeewatch.org/maps/ (accessed November 2024).

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KERN COUNTY PLUGGING AND ABANDONING EQUIPMENT AND WELL SITE PHOTOS

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