Exhibit E

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MONTEREY COUNTY

RESOURCE MANAGEMENT AGENCY

PLANNING

168 W ALISAL ST, 2nd FLOOR, SALINAS, CA 93901

PHONE: (831) 755-5025 FAX: (831) 757-9516

INITIAL STUDY

I. BACKGROUND INFORMATION

Project Title: Porter Estates Company Bradley Ranch Inc. (Trio Petroleum)

File No.: PLN160146

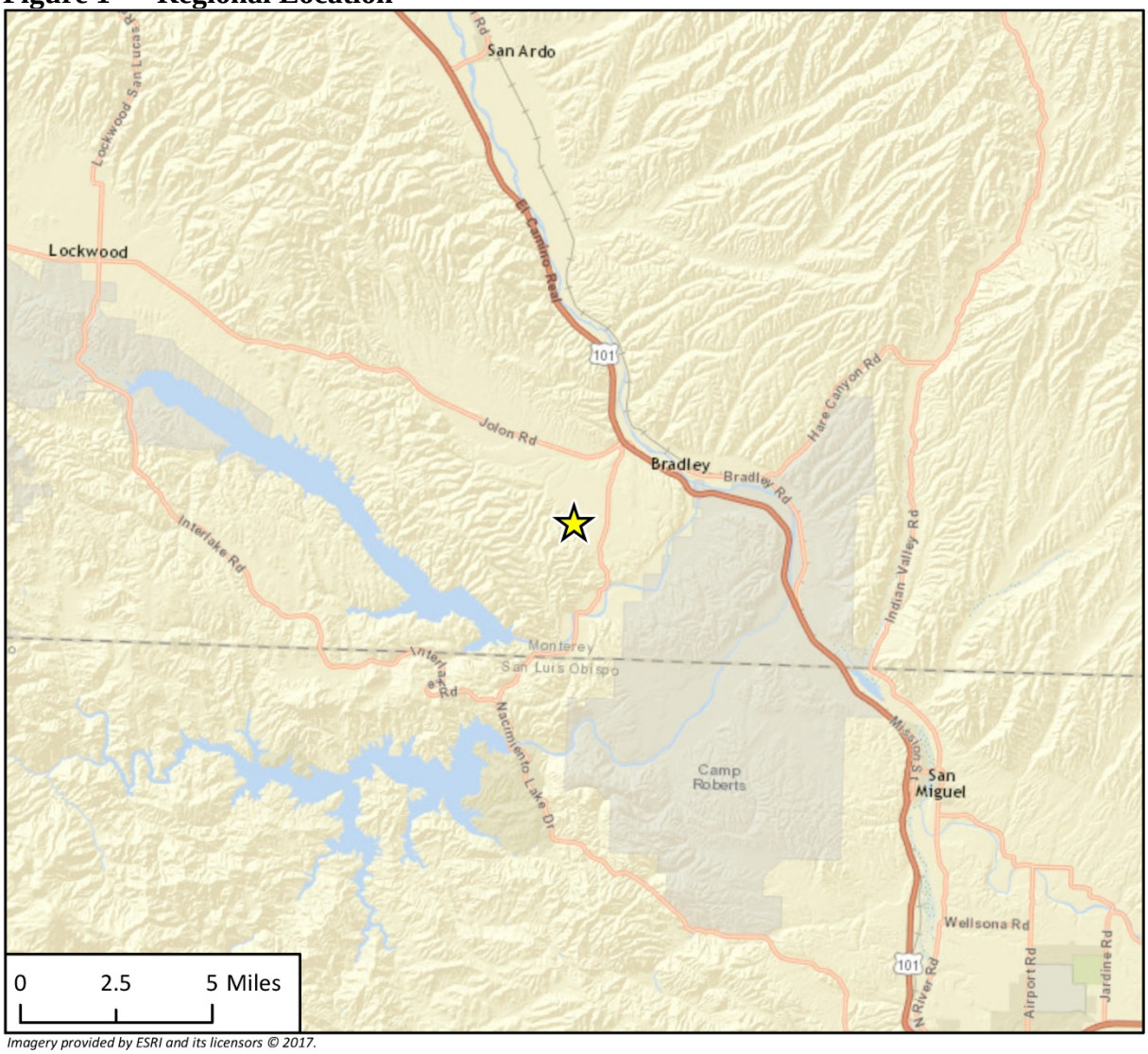
Project Location: The project site is located in Hames Valley, approximately three miles southwest of the community of Bradley and U.S. Highway 101 in southern unincorporated Monterey County. The project area consists of four distinct sites, one for each proposed exploratory test well. The specific sites of the proposed exploratory test wells are referred to as "well sites". The specific location of the four proposed Hames Valley (HV) well sites are shown in Table 1 below. Figure 1 shows the location of the site in the region and Figure 2 shows the project site and the location of each of the four exploratory well sites.

Table 1 Location of Well Sites

Well Site	Section	Township and Range	APN	Parcel Acreage
Hames Valley #1	Section 14 – southeast quarter	Township 24 South Range 10 East	424-081-046	406.4
Hames Valley #2	Section 13 – southeast quarter	Township 24 South Range 10 East	424-081-050	344.0
Hames Valley #3	Section 11 – southeast quarter	Township 24 South Range 10 East	424-111-001	573.4
Hames Valley #4	Section 19 – southwest quarter	Township 24 South Range 11 East	424-081-084	158.4
			Total	**1,482.2**

Name of Property Owner:	Porter Estate Company Bradley Ranch
Name of Applicant:	Trio Petroleum, LLC
Assessor's Parcel Number(s):	424-081-046, 424,081-050, 424-081-084, and 424-111-011
Acreage of Property:	5.8 acres (total disturbance area) 1482.2 acres (total acreage)
General Plan Designation:	Farmlands (HV #1, 2, and 4), Permanent Grazing (HV #3)
Zoning District:	Farmlands (F/40) (HV #1, 2, and 4) and Permanent Grazing (PG/40) (HV #3)
Lead Agency:	County of Monterey
Prepared By:	Rincon Consultants, Inc.
Date Prepared:	April 2017
Contact Person:	David J. R. Mack, AICP, Senior Planner mackd@co.monterey.ca.us / 831-755-5096

Figure 1 Regional Location



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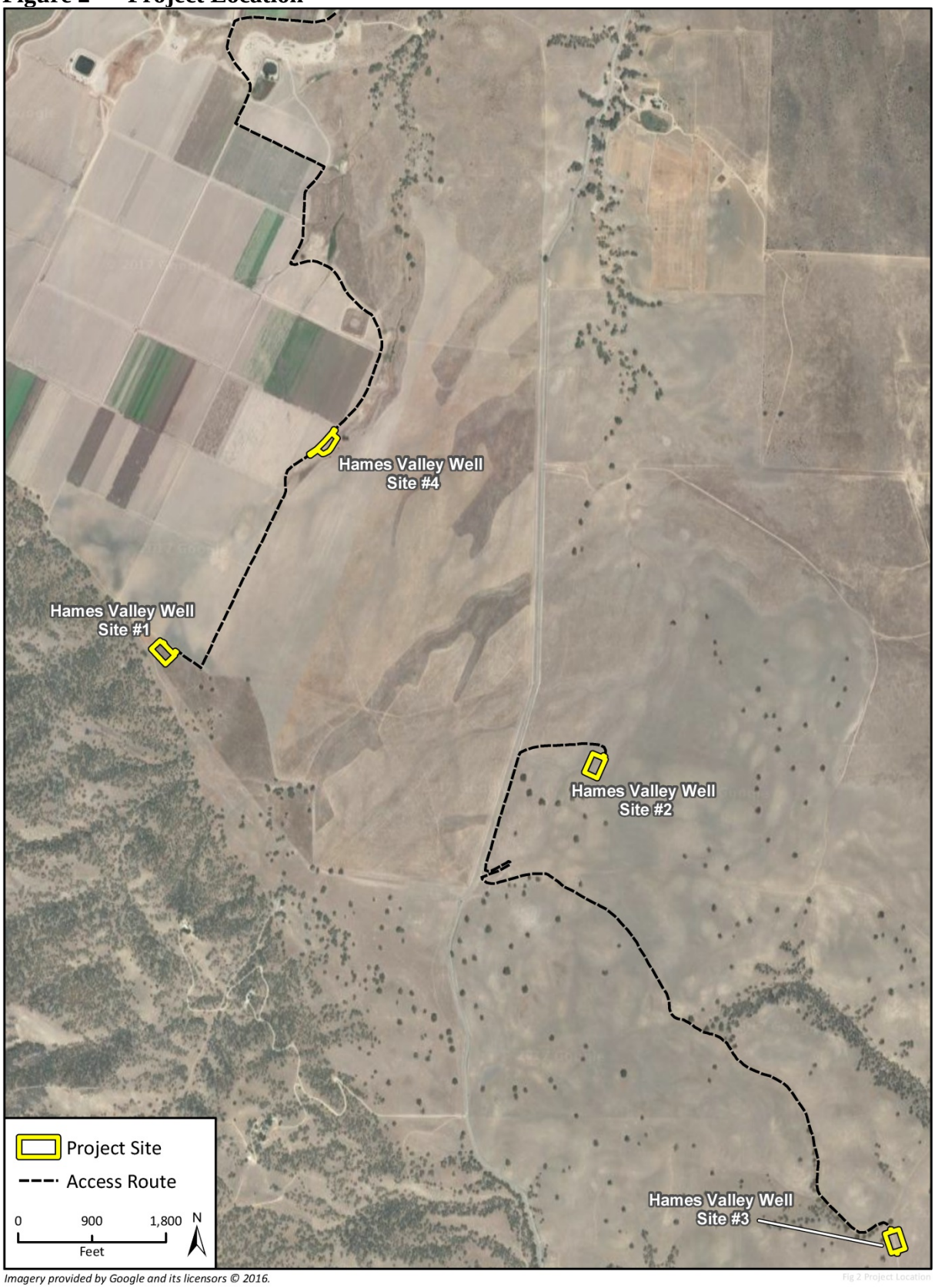
Project Location

N

Fig 1 Regional Location

Figure 2 Project Location



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II. DESCRIPTION OF PROJECT AND ENVIRONMENTAL SETTING

A. Description of Project:

Overview. The proposed project would include site preparation, drilling, and production testing (exploration) for oil and gas at four new well sites in Hames Valley (HV). The project is an exploratory effort to assist the applicant in determining whether oil is available in commercial quantities at the project location. Potential future production wells would be subject to additional environmental review and permitting.

The proposed project would involve construction of four exploratory well sites (Hames Valley [HV] #1, #2, #3, and #4) to drill, and production test one exploratory oil and gas well at each proposed well site. The depth of each test well would reach between 4,000 to 6,500 feet. No hydraulic fracturing or enhanced oil recovery is proposed.[1]

Well site HV #2 does not have an existing access road and the proposed project would include construction of a 0.2-mile long access road to the well site from an existing driveway and farm access road near Nacimiento Lake Drive. The other well sites would be accessed via existing agriculture and ranch access roads. Table 2 includes the total area for each well site.

Table 2 Project Disturbance Area

Well Site	Area (acres)
HV #1	1.0
HV #2	2.2[1]
HV #3	1.1
HV #4	1.5
Total	**5.8**

[1]Includes 0.5 acre of access route construction. Source: XI.1

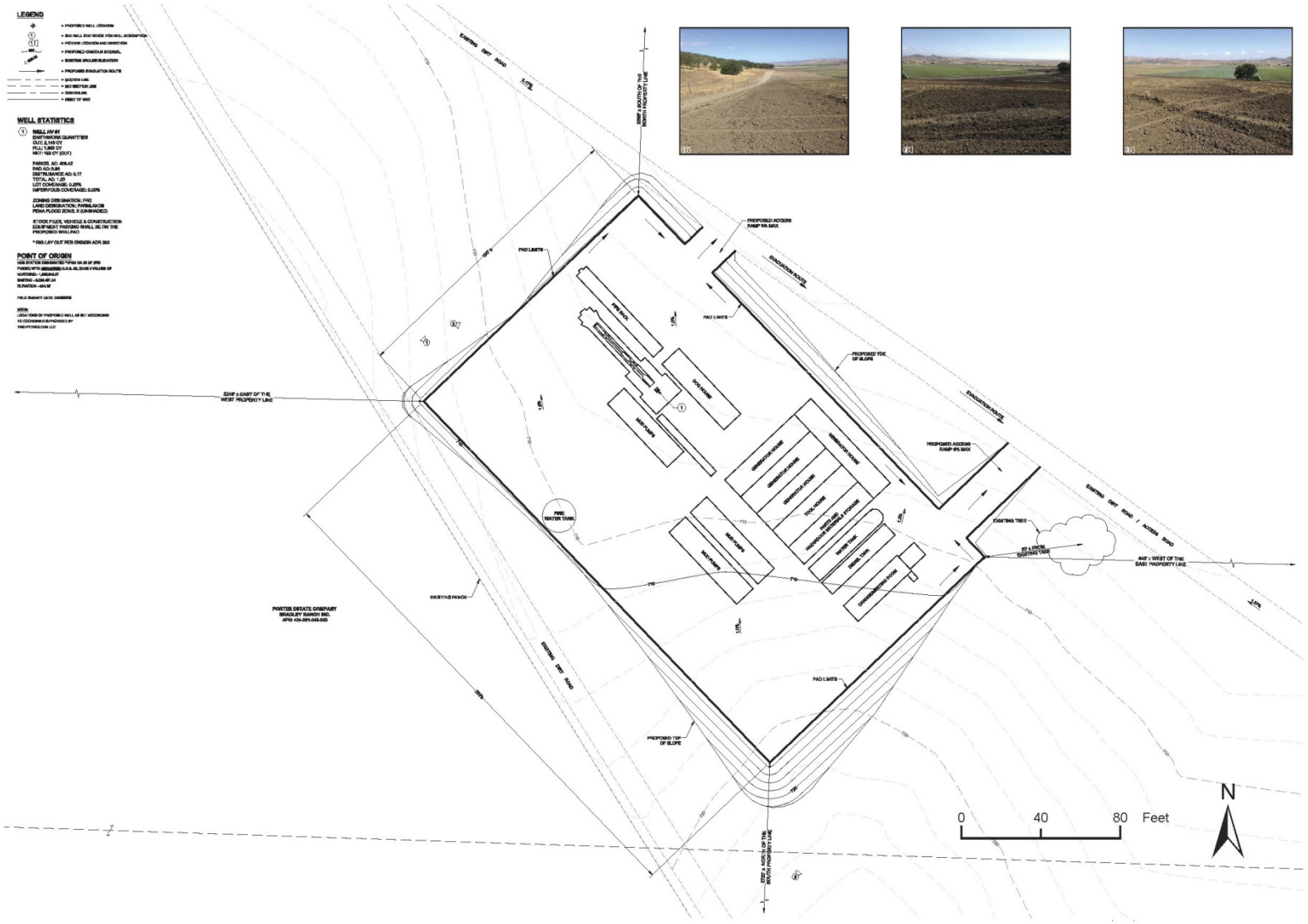
Each well site would contain a 105 foot-tall drilling rig with a mud pit, mud pump, pipe trailer, drawworks, water and fuel tank, generator house, pipe rack area, dog house, cat walk, 500-gallon fresh water tank, diesel tank, and tool house.[2] Figures 3a through 3d show the site plans for HV #1 through HV #4, respectively.

Construction and Testing. The proposed project would involve the drilling and production testing of up to four wells. One well would be drilled at a time; however the production testing phase for each well could last for up to 18 months, such that all four wells could potentially be tested at the same time. Drilling of the first well is anticipated to start shortly after permit approval and condition compliance.

[1] Enhanced oil recovery refers to techniques for increasing the amount of crude oil that can be extracted. Techniques typically involve injecting a product into the well, such as natural gas, nitrogen, or carbon dioxide ("gas injection"); steam ("thermal injection"); or various chemicals ("chemical injection").

[2] A dog house is a room located adjacent to the rig floor which serves as a combination of a tool shed, office, communications center, coffee room, lunchroom, and general meeting place for the crew. The cat walk is a platform used as a staging area for rig and drill tools.

Figure 3a Site Plan: Hames Valley Well #1

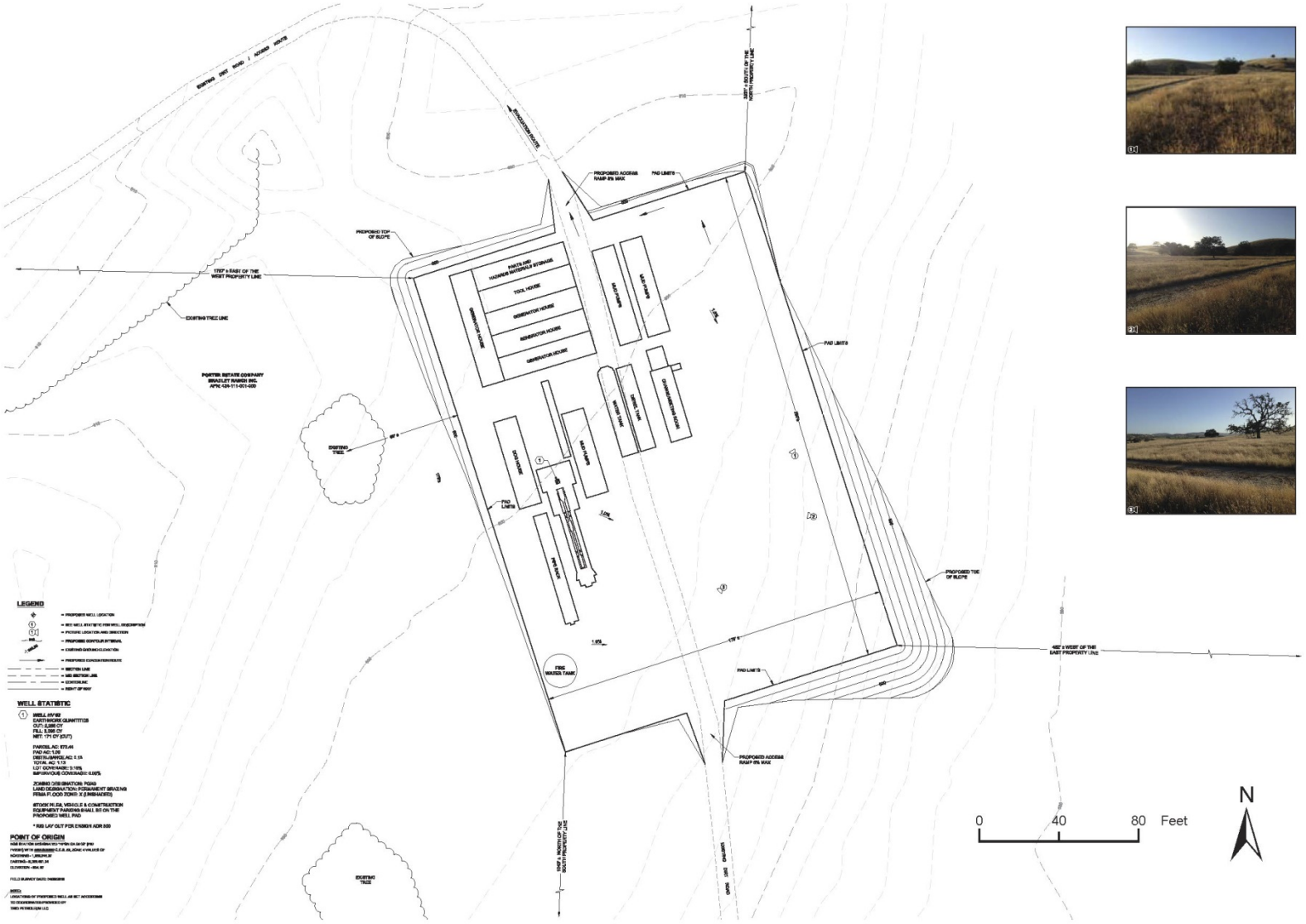


Source: LANDMARK SURVEYING & ENGINEERING, 2016

Figure 3b Site Plan: Hames Valley Well #2

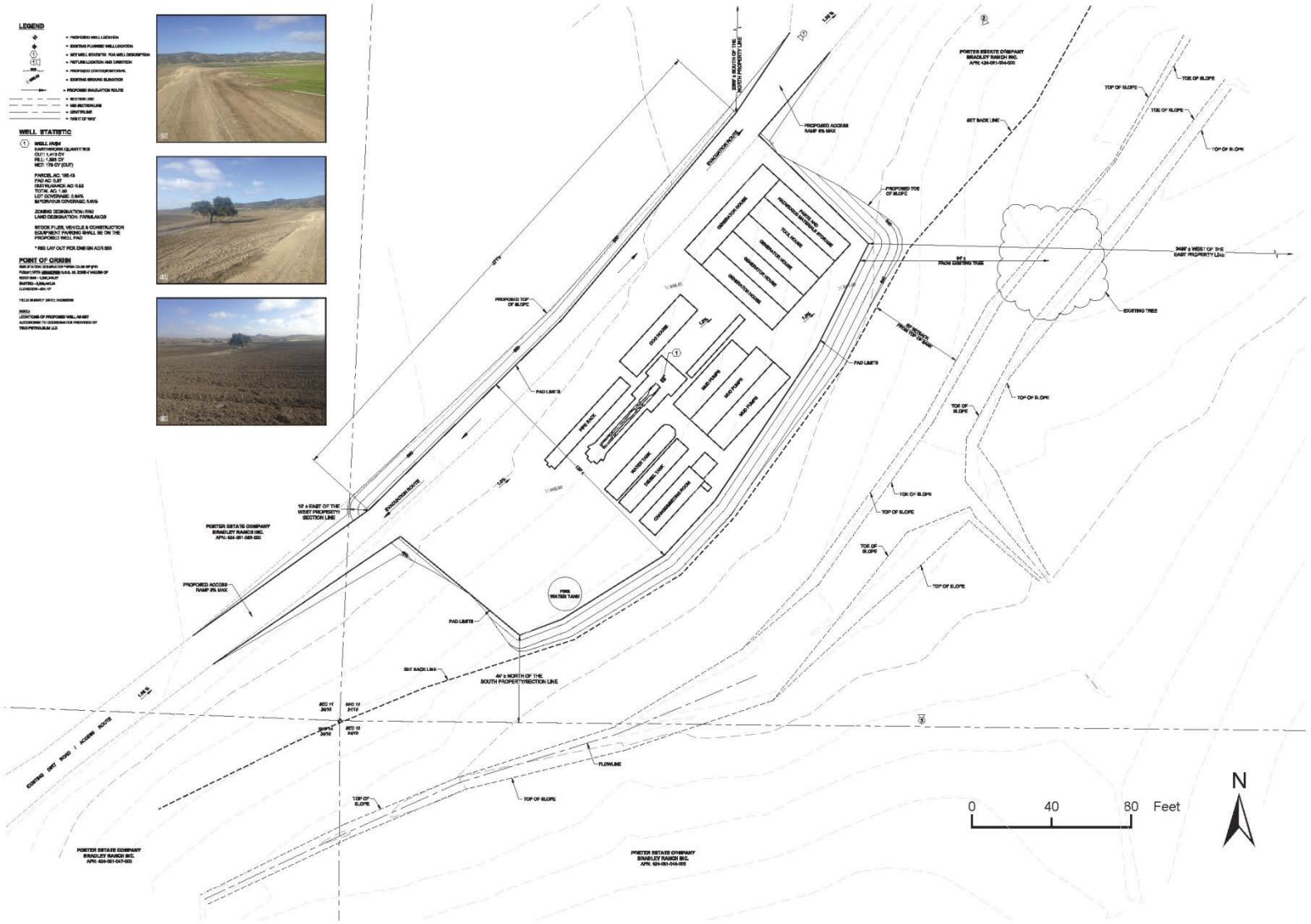
Source: LANDMARK SURVEYING & ENGINEERING, 2016

Figure 3c Site Plan: Hames Valley Well #3



Source: LANDMARK SURVEYING & ENGINEERING, 2016

Figure 3d Site Plan: Hames Valley Well #4



Source: LANDMARK SURVEYING & ENGINEERING, 2016

Each construction phase is described below.

Site Preparation. Site preparation would include clearing of grasses and other vegetation, minor grading, and compaction. No trees would be removed at any site and existing drainage patterns would be maintained. An earthen berm would be constructed around the perimeter of each well site to ensure that any unintended fluid discharge during drilling or production testing is confined within the well site. The earthen berm at each site would be approximately 1.5 feet tall and located around the exterior limits of each site, with smaller berms as necessary around all tanks and separating facilities. Where appropriate, material rolls would also be laid around the footprint of specific facilities within each well site. Site preparation, which would occur during the summer, would require four to seven days to complete for each site. An erosion control plan has been prepared for each well site to control sedimentation associated with project construction. All grading, erosion control, and site preparation activities would be performed in accordance with applicable federal, State and local regulations.

Drilling Phase. The drilling phase for each proposed well would last approximately 19 days with drilling activity occurring 24 hours a day. A 105-foot tall drilling rig and temporary facilities, such as crew support trailers and portables generators, would be brought in for drilling. Portable lighting would be used only as needed during drilling. Hazardous materials common to drilling operations, including diesel fuel, motor oil, transmission oil, and nitrogen, would be used and stored on site according to applicable Federal, State, and local regulations.

Production Testing Phase. The project would include production testing (exploration) for oil and gas 24 hours a day. Set up of the temporary tanks and pumping unit would take approximately two to three days. Production testing operations for each well may require up to 12 months, with the option to test for an additional six months. Once the target depth of each well is reached, it would be tested and evaluated to determine whether to place the well on production or plug and abandon the well. Initially a production rig would be moved on site to complete the well and prepare for production testing. The rig would operate 10 hours a day for five days. Conversion of an exploratory test well to a production well, shall be subject to further review and permitting under applicable federal, State, and local regulations, including consideration of a separate Use Permit from Monterey County.

Each proposed well would be tested with a flow line running to a portable test separator placed on each proposed well site. All pumping units would sit on top of a prefabricated cement pad for stability. The pad dimensions match the footprint of the pumping unit, which is two feet high, six feet wide, and 12 feet long. The pad would be trucked in with the pumping unit and laid down prior to pump installation. An acid wash may be used during production testing to ensure that the perforations in the well casing at depth remain open and clear. When the well is put back on production after a wash, the acid recovered would be pumped out of the well and disposed of by a licensed contractor at an appropriate and licensed hazardous waste facility. Any acidizing of the well would be at the nominal pressure necessary for cleaning perforations and lower than pressure that could fracture the formation. Hydraulic fracturing (fracking) is not proposed and would not be permitted under the Use

Permit for any of the four sites. Acid well stimulation as defined by Measure Z and Senate Bill 4 is the application of one or more acids to the well and includes acid matrix stimulation treatments and acid fracturing treatments. Acid matrix stimulation treatments are acid treatments conducted at pressures lower than the applied pressure necessary to fracture the underground geologic formation. Therefore, the acid wash used for the exploratory wells does not meet the definition of Measure Z.

During the production testing period, any produced natural gas would be flared in order to mitigate emissions of volatile organic compounds (VOCs) and liquids produced in association with the gas would be stored in portable tanks for transportation to an off-site facility. Flares would be two to three feet tall and placed as far from the drilling rig on each well site as possible. The flare is subject to Monterey Bay Air Resources District (MBARD) permitting requirements. In addition, California Department of Forestry and Fire Protection (CAL-FIRE) South County would review permits and issue conditions of approval related to their location and placement. The sole purpose of operating the flare is to minimize emissions of methane and VOCs during the production testing process.

During production testing, briny water (produced water) and oil will be recovered. Separated crude oil and produced water would be stored on site in four to six 500-barrel portable, enclosed steel tanks for transportation to off-site facilities. An acid wash may be used during production testing and disposed of at a licensed hazardous waste facility, as discussed above. No other hazardous materials would be stored on site during the production testing phase. The location of storage areas are identified on Figures 3a through 3d.

A 300-foot agricultural buffer would be provided around each well site, and the project applicant would inform the land owner about the timing of site preparation, drilling, and production testing to allow time for the land owner to move the cattle to a neighboring pasture, utilizing a cross-fence. If this is not an option for the land owner, the applicant would install temporary fencing to prevent cattle from accessing the well sites (Source: IX.7).

Production. The applicant does not currently propose long-term production. Any long-term production would require subsequent CEQA review and permitting by federal, State, and local agencies, including a Use Permit from the County. Additionally, the citizen-sponsored initiative, Measure Z,[3] was passed in November 2016. While litigation challenging Measure Z is currently pending and Measure Z's effective date is currently stayed, the stay can be lifted by order of the Monterey County Superior Court or with six months' notice from the County of Monterey. If the stay is lifted, Measure Z will become effective and may impact the applicant's ability to drill new wells, convert the exploratory wells to production wells, or

[3] Measure Z amends the Monterey County General Plan to: (1) prohibit the use of land within the County's unincorporated (non-city) areas for hydraulic fracturing treatments ("fracking"), acid well stimulation treatments, and other well stimulation treatments; (2) prohibit new and phase out existing land uses that utilize oil and gas wastewater injection and impoundment; and (3) prohibit the drilling of new oil and gas wells in the County's unincorporated areas. Measure Z makes similar amendments to the Fort Ord Master Plan and Local Coastal Program, if certified respectively by the Fort Ord Reuse Authority and California Coastal Commission.

may otherwise limit or curtail the potential production at the exploratory test well sites, or other regional sites. Despite the need for further CEQA review, additional permitting, and potential application of Measure Z, this Initial Study conservatively assumes that long-term production of the four proposed wells is reasonably foreseeable as a result of this project's exploration.

This analysis, therefore, considers the reasonably foreseeable impacts of long-term production, in which all four wells, HV #1 though #4, would be used for production. However, as stated previously, conversion from exploratory wells to production wells would require additional review and permitting, including the potential application of Measure Z. Any future drilling would require separate permits from the County of Monterey and would undergo environmental review at that time.

Based on the production rates at the nearby San Ardo oil field, it is assumed that each of the four proposed wells could produce approximately 150 barrels of oil per day, for a total of 600 barrels of oil per day if all four sites are produced. If these wells can produce large quantities of oil, it is possible that additional wells could be drilled in the vicinity, subject to the potential application of Measure Z. However, the probability of this occurring, as well as the associated details, such as future well locations, is speculative at this time. Therefore, this Initial Study limits the assessment of future long-term production to the four wells proposed as part of the current application.

Prior to the potential full-time production and operation of the well sites, a Use Permit would be required that would address all-weather pads and access roads for any well sites in operation. During operation, appropriate spill prevention and containment measures would be implemented. These would include, but not be limited to: design and implementation of a spill prevention control plan and/or construction of a spill containment berm. Industry standard well maintenance would also occur, including the periodic acid or diesel wash of the well bore in order to clean out the perforations in the production string of casing. In addition, new perforations would be punctured along the well bore in zones not previously tested. The applicant has indicated that long-term production of the four wells would not include well stimulation, including hydraulic fracking. Potential future well operations would continue to be regulated by the State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), as well as subject to permitting pursuant to the Monterey County Code, and local land use authority, including Measure Z.

Site Access. Regional access to the project area is provided by U.S. Highway 101 and Jolon Road. Local access to all four well sites is provided from Lake Nacimiento Drive. Well sites HV #1 and HV #4 would be accessed via an existing driveway on the southwest side of Lake Nacimiento Drive, approximately 600 feet southeast of Jolon Road. Access to well site HV #1 may alternatively be provided via an existing dirt driveway off Jolon Road, depending on the season. Local access to well sites HV #2 and HV #3 would be provided via an existing driveway on the east side of Nacimiento Lake Drive, approximately 2.5 miles south of Jolon Road. Well sites HV #1, #3, and #4 would be accessed internally using existing agriculture or ranch access roads. A new dirt road would be constructed to access well site HV #2. This dirt road would be approximately 0.2 mile long, and would connect to an existing driveway

and farm access road off Nacimiento Lake Drive. The new road would be bladed and graded subject to a duly issued County grading permit. No surface would be added to the new driveway.

During site preparation, approximately two to three personnel would be on site at any given time. During drilling, eight to ten personnel would be on site at any given time, with at least one person on site 24 hours a day during drilling.

During production testing, one person would be on site 24 hours a day to monitor and manage operations at all four wells. This phase would last up to 12 months, with an option for an additional six months. Large vacuum trucks would travel to and from the site approximately three times per week during production testing to remove the pumped fluids.

During potential future long-term production, two to four people would work for approximately six months to install permanent tanks. Approximately four truck trips per week would be required to haul the estimated amount of oil and water being produced from each well, which equates to a total of 16 truck trips per week.

This analysis assumes that oil would be sold and transported to the Coalinga Oil Field, located approximately 40 miles northeast of the project area. Transport off-site would be via oil tanker, should exploration be successful. Oil tanker traffic would travel from Nacimiento Lake Drive to Jolon Road to U.S. Highway 101.

Power and Fuel Storage. Power for production testing would be from propane. If, in a subsequent application, a Use Permit is approved for the long-term production, natural gas, produced from the wells in conjunction with the oil, would be used to power the production facilities, including the pumping units.

Waste. Any municipal solid waste generated at the site would be contained in dumpsters and hauled to a public waste site probably within Monterey County. Recovered water would be delivered to an existing and approved disposal well, or wastewater disposal facility, possibly located in Monterey County. If delivered to an existing injection well, the well would be regulated by the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act. The EPA's Underground Injection Control (UIC) program (40 CFR Parts 144-148) is a permit program that protects underground sources of drinking water by regulating five classes of injection wells. Class II wells inject fluids associated with oil and natural gas production operations. Most of the injected fluid is brine produced when oil and gas are extracted from the earth. The UIC permit program is primarily state-enforced. In California, Class II injection wells are regulated by the Department of Conservation, Division of Oil, Gas, and Geothermal Resources, under provisions of the state Public Resources Code and the federal Safe Drinking Water Act. Class II injection wells fall under the Division's UIC program, which is monitored and audited by the U.S. EPA. In 1983, the Division received EPA primary authority, primacy, to regulate Class II wells. The main features of the UIC program include permitting, inspection, enforcement, mechanical integrity testing, plugging and abandonment oversight, data management, and public outreach.

Upon the Effective Date of Measure Z, any vested wastewater injection operation would be subject to a five-year amortization period. The injection well owner could, under the terms of Measure Z, apply to the Monterey County Planning Commission for a ten-year extension of the amortization period.

Any oil would be sold on-site and trucked to the purchasers. All domestic sewage would be contained in on-site portable contained restroom facilities on each well site. Each portable restroom facility would be pumped on an as-needed basis, depending on the number of employees at each site. Domestic sewage would be disposed of via sanitary services provided by vendors and portable toilets would be removed if a well is plugged and abandoned.

Wastewater Disposal. Wastewater (briny water) produced during exploration of the four well sites would be captured and contained in temporary tanks on the well sites. The wastewater would be removed from the exploration well sites by a licensed third party contractor, such as Patriot Environmental Services (U.S. EPA ID No. CAD053866794). Patriot Environmental Services would truck the wastewater to Central Valley Waste Water at 18613 Waterflood Road in Lost Hills, California to properly dispose of wastewater.

If the exploration wells are able to produce commercial quantities of oil and a Use Permit for production is granted by Monterey County, wastewater storage and handling would include permanent tank facilities. The permanent tank facilities would be fully enclosed with vapor recovery systems safely containing wastewater until it can be picked up by a licensed third party contractor specifically employed for disposal tanks. The project applicant may apply for an injection well for wastewater disposal during production. Wastewater disposal in an injection well would need to be approved by the DOGGR, local water board, and the U.S. EPA for safe wastewater disposal.

Emergency Spill Contingency Plan. An Emergency Spill Contingency Plan has been developed for exploration at the well sites. In the event of any unintended fluid discharge during drilling or production testing the project applicant would implement the Spill Contingency Plan. The Spill Contingency Plan contains instructions for training, hazardous material incidents, and an evacuation plan. Prior to initiating site preparation activities at the exploration well sites, all workers would be given an environmental orientation that includes a discussion of the Spill Contingency Plan.

B. Surrounding Land Uses and Environmental Setting:

The project area, which includes all four well sites, is undeveloped and consists of agricultural land and non-native annual grassland. Current and historic land use on all four well sites includes agriculture and grazing. None of the well sites were historically planted with crops. Well sites HV #1 and HV #4 are located on plowed agricultural lands and are adjacent to active row crop agriculture. These two sites are routinely disked and left fallow for weed and pest control. An agricultural drainage is located approximately 50 feet southeast of the pad limits of well site HV #4. Well sites HV #2 and HV #3 are located on open grassland that was historically used for grazing cattle. See Figures 4a and 4b for site photos.

Measure Z amends the Monterey County General Plan Land Use Element to add Policy LU-1.23, and other similar policies. Policy LU-1.23 provides, "the drilling of new oil and gas wells is prohibited on all lands within the County's unincorporated areas. This Policy LU-1.23 does not affect oil and gas wells drilled prior to the Effective Date and which have not been abandoned." As noted above, Measure Z's effective date is currently stayed, although the stay can be lifted by order of the Monterey County Superior Court or with six months' notice from the County of Monterey. With the stay in effect, the exploratory wells are consistent with County zoning if a Use Permit is granted. As noted previously, the site is designated Farmlands (HV #1, 2, and 4) and Permanent Grazing (HV #3) in the County's Land Use Plan for South County. The Farmlands land use designation permits a range of uses to conserve and enhance the use of the important farmlands in the County while providing opportunity to establish necessary support facilities for agricultural uses. The Permanent Grazing land use designation allows for a range of land uses to conserve and enhance the productive grazing lands in the County. The site is zoned Farmlands (F/40) (HV #1, 2, and 4) and Permanent Grazing (PG) (HV #3) in the County's Zoning Code. The Farmlands zone allows for land uses that preserve and enhance productive and unique farmlands and the Permanent Grazing zone allows for land uses that preserve, protect, and enhance grazing lands. Under the County Code "The exploration for and the removal of oil and gas" is allowed on Permanent Grazing sites with a Use Permit (Monterey County Ordinance Code Chapter 21.34). In addition, "The exploration for and the removal of oil and gas" is also allowed on Farmlands with a Use Permit (Monterey County Ordinance Code Chapter 21.30).

Surrounding land uses include privately owned grazing and agricultural lands, as well as several single family residences located adjacent to existing well access roads. The community of Bradley is located approximately three miles northeast, San Antonio Reservoir County Recreation Area is located approximately four miles southwest, and the San Antonio River lies 0.3 mile south of the project site.

C. Other Public Agencies Whose Approval is Required:

The proposed project includes drilling and temporary production testing of four proposed wells, which would require a temporary Use Permit from the County of Monterey. In addition, Notice of Intent to Drill a New Well (OG105) must be submitted to the California Division of Oil, Gas, & Geothermal Resources (DOGGR) for each well site. The project may also require a permit to operate from the Monterey Bay Air Resources District (MBARD).

If the proposed testing project determines that oil is available in commercially viable quantities, the wells would be shut-in (temporarily abandoned) and a new, comprehensive Conditional Use Permit (CUP) application would be submitted to the County of Monterey for long-term production. To support the Use Permit for long-term production, additional CEQA review of production would be required. Production of the wells would also require a permit to operate from DOGGR**.**

Figure 4a Site Photos: Hames Valley Well Sites #1 and #2

Photo 1: Hames Valley Well Site #1 Facing South.

Photo 2: Hames Valley Well Site #2 Facing North-Northwest.

Figure 4b Site Photos: Hames Valley Well Sites #3 and #4

Photo 3: Hames Valley Well Site #3 Facing South.

Photo 4: Hames Valley Well Site #4 Facing Southeast.

III. PROJECT CONSISTENCY WITH OTHER APPLICABLE LOCAL AND STATE PLANS AND MANDATED LAWS

Use the list below to indicate plans applicable to the project and verify their consistency or non-consistency with project implementation.

General Plan/Area Plan	☒	Air Quality Mgmt. Plan	☒
Specific Plan	☐	Airport Land Use Plans	☐
Water Quality Control Plan	☒	Local Coastal Program-LUP	☐

General Plan. The proposed project was reviewed for consistency with the 2010 Monterey County General Plan. Measure Z amends the 2010 Monterey County General Plan to add Policies LU-1.21, LU-1.22, and LU-1.23. Litigation challenging Measure Z is pending, and Measure Z's effective date is currently stayed, although the stay can be lifted by order of the Monterey County Superior Court or with six months' notice from the County of Monterey. Policy LU-1.21 prohibits land uses in support of well stimulation treatments, including hydraulic fracturing. The proposed project does not include well stimulation treatments. Policy LU-1.22 prohibits "the development, construction, installation, or use of any facility, appurtenance, or above-ground equipment, whether temporary or permanent, mobile or fixed, accessory or principal, in support of oil and gas wastewater injection or oil and gas wastewater impoundment" with provisions for an amortization period. Policy LU-1.23 prohibits the drilling of new oil and gas wells. Because the effective date of Measure Z is currently stayed, the exploratory well project is consistent with the General Plan; however, application of Measure Z may prevent the conversion of exploratory wells to production drilling, prohibit the drilling of new production wells, and prevent the injection or impoundment of wastewater. The project is consistent with other applicable General Plan policies, as further discussed in Section IV.10, *Land Use and Planning*. (Source: IX.2) **CONSISTENT**

Water Quality Control Plan. Monterey County is included in the Central Coast Regional Water Quality Control Board – Region 3 (CCRWQCB). The CCRWQCB regulates the sources of water quality related problems that could result in actual or potential impairment or degradation of beneficial uses or degradation of water quality. Because the proposed project would not substantially increase on-site impervious surfaces and does not include land uses that would introduce new sources of pollution that could not be effectively mitigated, it would not contribute runoff that would exceed the capacity of stormwater drainage systems or provide substantial additional sources of polluted runoff because the project applicant proposes to capture all produced water and dispose of it off-site. Recovered water would be delivered to an existing and approved disposal well, or wastewater disposal facility, possibly located in Monterey County. If delivered to an existing injection well, the well would be regulated by the U.S. EPA under the Safe Drinking Water Act. The EPA's Underground Injection Control (UIC) program (40 CFR Parts 144-148) is a permit program that protects underground sources of drinking water by regulating five classes of injection wells. Class II wells inject fluids associated with oil and natural gas production operations.

The UIC permit program is primarily state-enforced. In California, Class II injection wells are regulated by the DOGGR, under provisions of the state Public Resources Code and the federal Safe Drinking Water Act. Class II injection wells fall under the DOGGR's UIC program, which is monitored and audited by the U.S. EPA. In 1983, DOGGR received EPA primary authority, primacy, to regulate Class II wells. Pursuant to compliance with these existing requirements, the proposed project would not result in water quality impacts or be inconsistent with the objectives of this plan. (Source: IX.3) **CONSISTENT**

Air Quality Management Plan. Inconsistency with the Air Quality Management Plan (AQMP) is an indication of a project's cumulative adverse impact on regional air quality (ozone levels). It is not an indication of project-specific impacts, which are evaluated according to the Air District's adopted thresholds of significance. Inconsistency with the AQMP is considered a significant cumulative air quality impact. The Monterey Bay Air Resources District (MBARD) prepared the AQMP for the Monterey Bay Region. The AQMP addresses the attainment and maintenance of State and federal ambient air quality standards within the North Central Coast Air Basin. The proposed project would generate construction and stationary emissions; however, as shown in Section IV.3, *Air Quality*, emissions would be reduced to below MBARD *CEQA Air Quality Guidelines* thresholds with implementation of required mitigation. Therefore, the proposed project would not conflict with or obstruct implementation of the AQMP. (Source: IX.8, 9). **CONSISTENT**

IV. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

A. FACTORS

The environmental factors checked below would be potentially affected by this project, as discussed within the checklist on the following pages.

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

Some proposed applications that are not exempt from CEQA review may have little or no potential for adverse environmental impact related to most of the topics in the Environmental Checklist; and/or potential impacts may involve only a few limited subject areas. These types of projects are generally minor in scope, located in a non-sensitive environment, and are

easily identifiable and without public controversy. For the environmental issue areas where there is no potential for significant environmental impact (and not checked above), the following finding can be made using the project description, environmental setting, or other information as supporting evidence.

☐ Check here if this finding is not applicable

FINDING: For the above referenced topics that are not checked off, there is no potential for significant environmental impact to occur from either construction, operation or maintenance of the proposed project and no further discussion in the Environmental Checklist is necessary.

EVIDENCE:

13. Population/Housing. There are no residences or existing infrastructure at any of the four well sites. Implementation of the project would not construct or displace any housing, as the project is testing for mineral resource extraction. The workers who would service the site would likely come from the existing population, and would not reflect or attribute to any type of population growth. There would be no impact.

15. Recreation. The project involves the installation and testing of four exploration wells. No parks, trail easements, or other recreational opportunities would be adversely impacted by the proposed project. The project would not generate population growth and therefore would not affect the use of existing recreational facilities. There would be no impact.

B. 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
David J. R. Mack, AICP	*Senior Planner*

V. EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on project-specific screening analysis).

2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances).

Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significance.

VI. ENVIRONMENTAL CHECKLIST

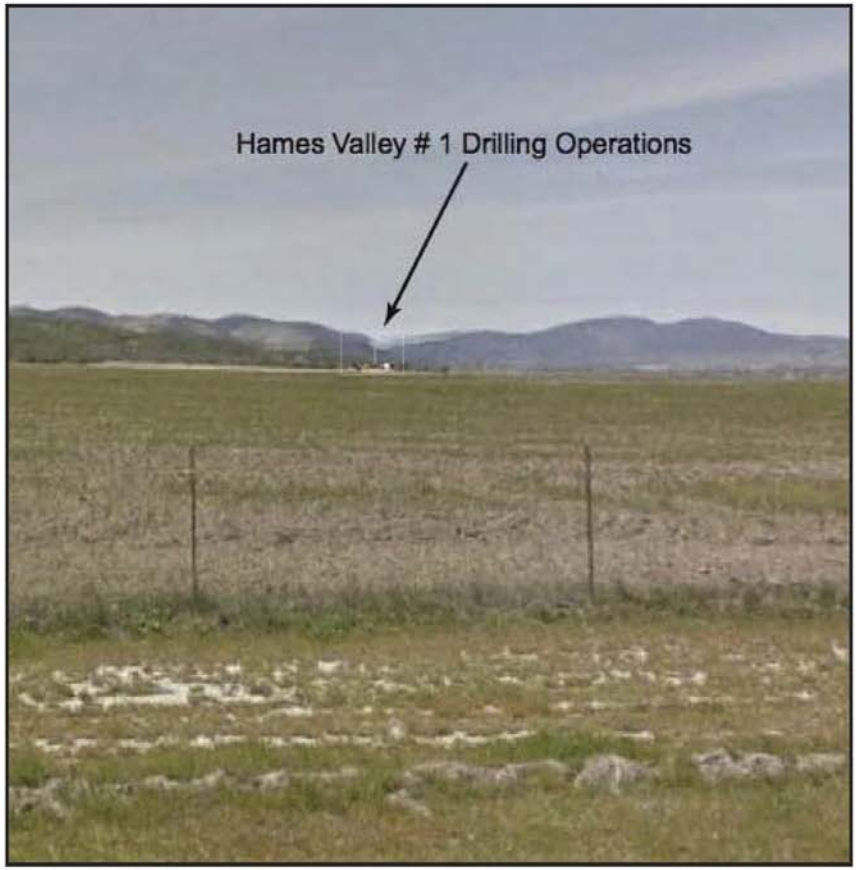
1. AESTHETICS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista? (Source: IX.1,2)	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Source: IX.4)	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Source: IX.1)	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Source: IX.1, 19)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

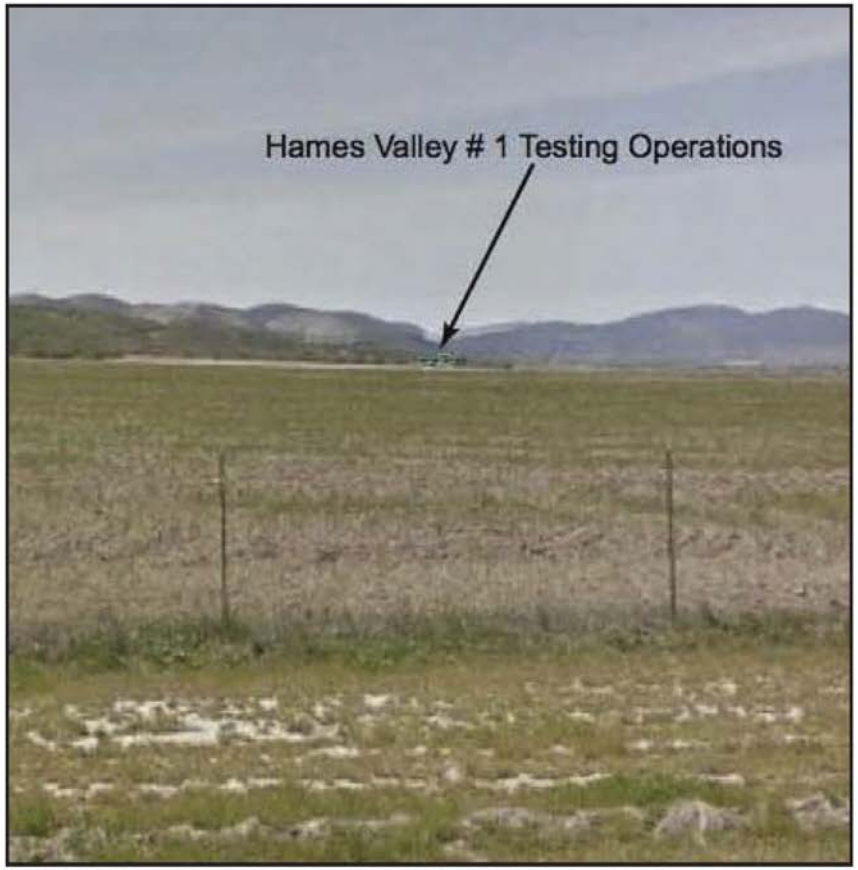
Aesthetics 1(a, b) – Less than Significant. The County of Monterey General Plan Conservation and Open Space Element does not identify any scenic vistas in the project vicinity (Source: IX.2). Scenic roadways in southern Monterey County also do not offer views of the project site. Because the site is approximately five miles northwest of Interlake Road, an officially designated County Scenic Highway (Source: IX.4), none of the exploratory well sites would be visible from this roadway. U.S Highway 101, located approximately two miles northeast of the project site, is not eligible for designation as a State Scenic Highway (Source: IX.4). None of the well sites would be visible from U.S. Highway 101.

While the project site would not be visible from a designated scenic roadway or scenic vista, public views of scenic resources on and through the project site are available from a local rural roadway, Nacimiento Lake Road. As shown by photographs in Figures 5a through 5d, public views looking from this roadway toward the project site consist of expansive open space with grassland and rolling hillsides dotted with trees. Existing views in the vicinity of exploratory well sites HV #1 and HV #4 include flat grasslands in the foreground and hills and ridgelines in the background, as shown in Figures 5a and 5d (Source: IX.1). Views near exploratory well site HV #2 include rolling pasture land in the foreground and middle-ground, with oak-spotted hillsides in the background, as shown in Figure 5b. Lastly, views in the vicinity of exploratory well site HV #3 are dominated by a tree-covered slope in the foreground, which blocks any middle- and background views, as shown in Figure 5c (Source: IX.1). Goal OS-1 in the County of Monterey General Plan Conservation and Open Space Element identifies natural resources and agricultural operations as contributors to the County's character and natural beauty.

Figure 5a HV Well Site #1 Photosimulation



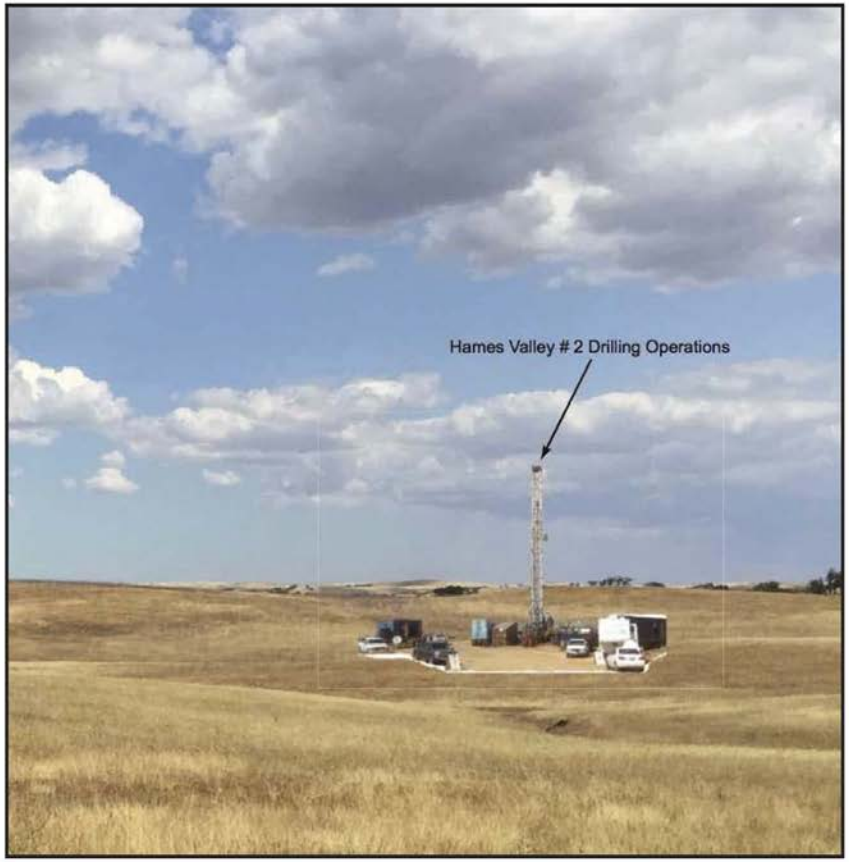
Hames Valley # 1 Project Site
Photo Simulation of Drilling Operations
View to the West of the Proposed Hames Valley # 1 Project Site from Nacimiento Lake Drive
Approximately 0.88 Miles East of Well Site



Hames Valley # 1 Project Site
Photo Simulation of Testing Operations
View to the West of the Proposed Hames Valley # 1 Project Site from Nacimiento Lake Drive
Approximately 0.88 Miles East of Well Site

Source: Robert A. Booher Consulting, 2016

Figure 5b HV Well Site #2 Photosimulation

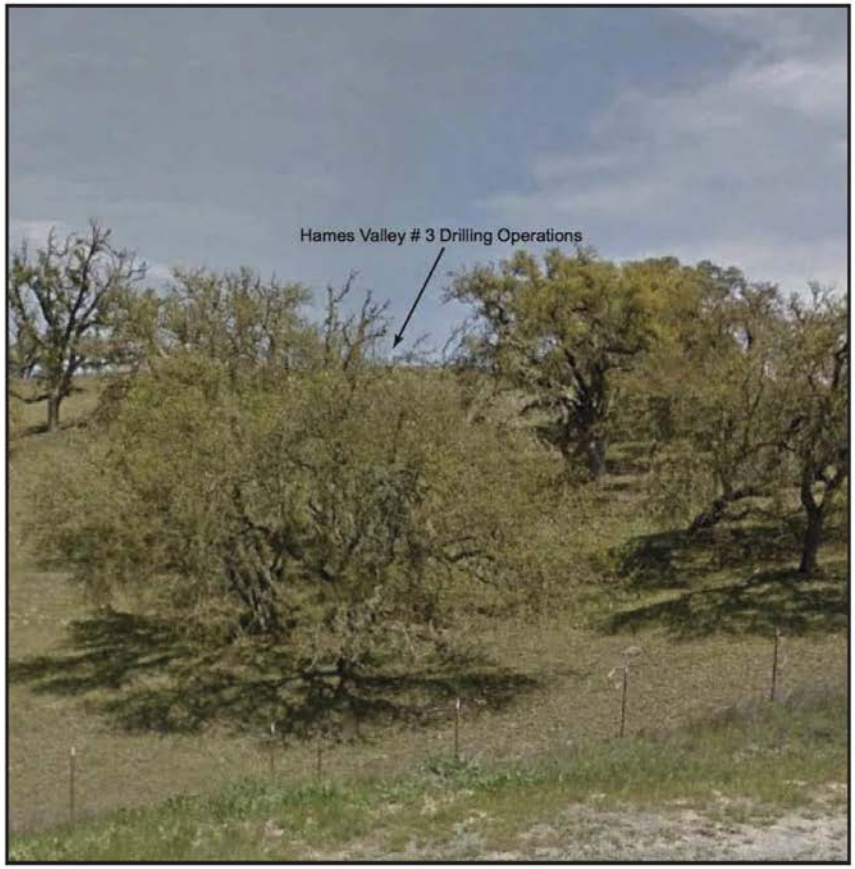


Hames Valley # 2 Project Site
Photo Simulation of Drilling Operations
View to the East of the Proposed Hames Valley # 2 Project Site from Nacimiento Lake Drive
Approximately 0.17 Miles West of Well Site

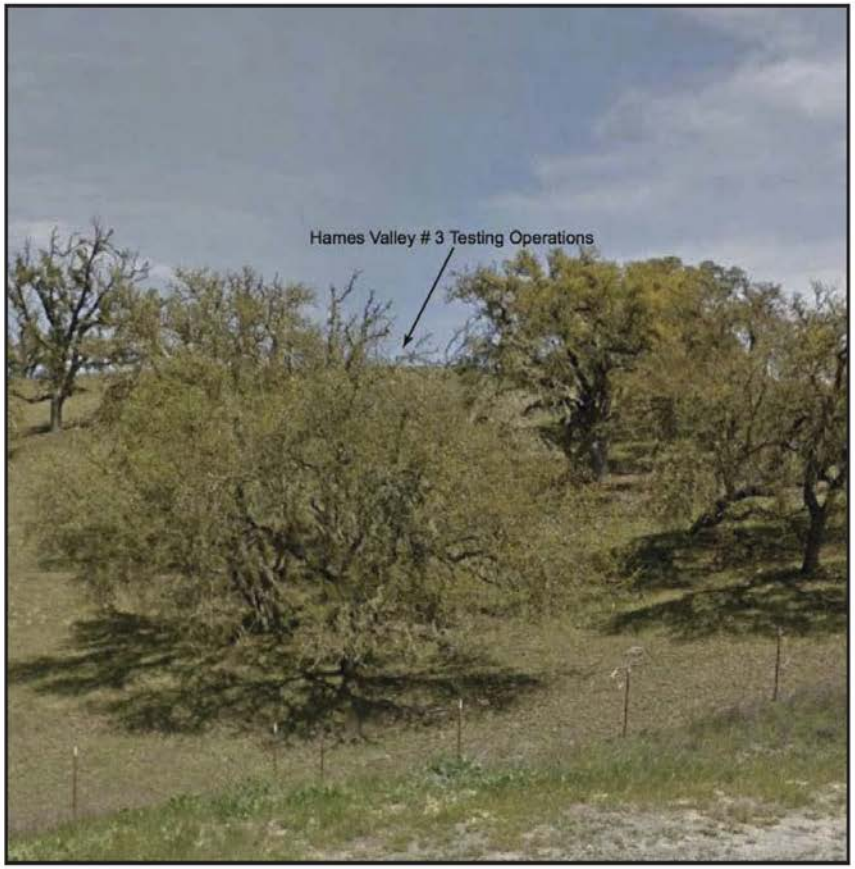
Hames Valley # 2 Project Site
Photo Simulation of Testing Operations
View to the East of the Proposed Hames Valley # 2 Project Site from Nacimiento Lake Drive
Approximately 0.17 Miles West of Well Site

Source: Robert A. Booher Consulting, 2016

Figure 5c HV Well Site #3 Photosimulation



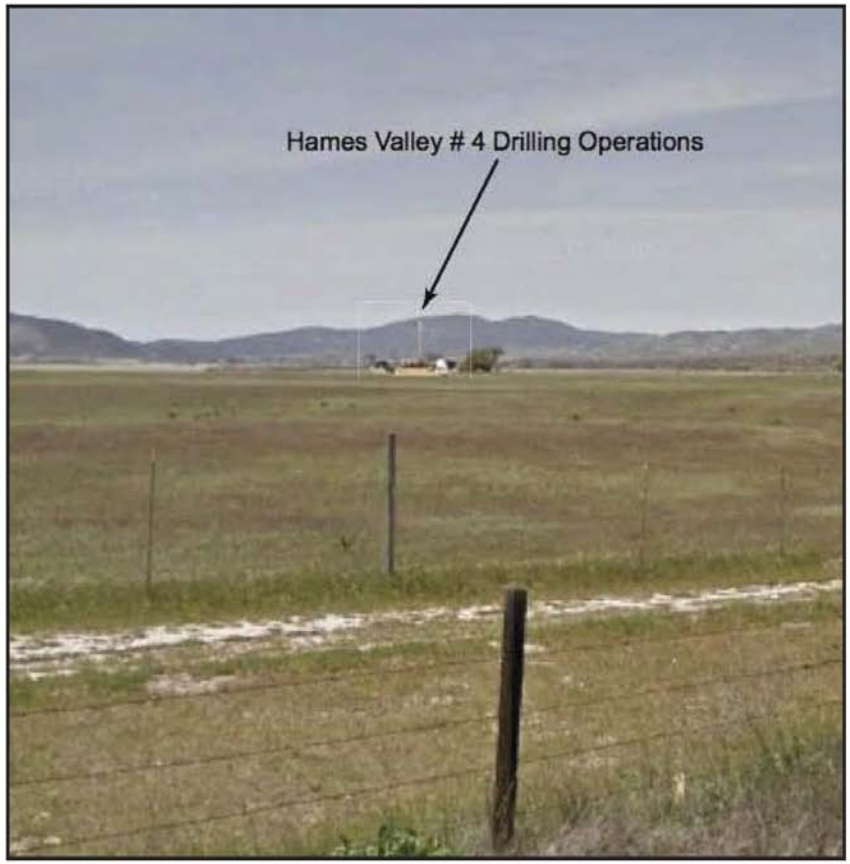
Hames Valley # 3 Project Site
Photo Simulation of Drilling Operations
View to the East of the Proposed Hames Valley # 3 Project Site from Nacimiento Lake Drive
Approximately 0.82 Miles West of Well Site



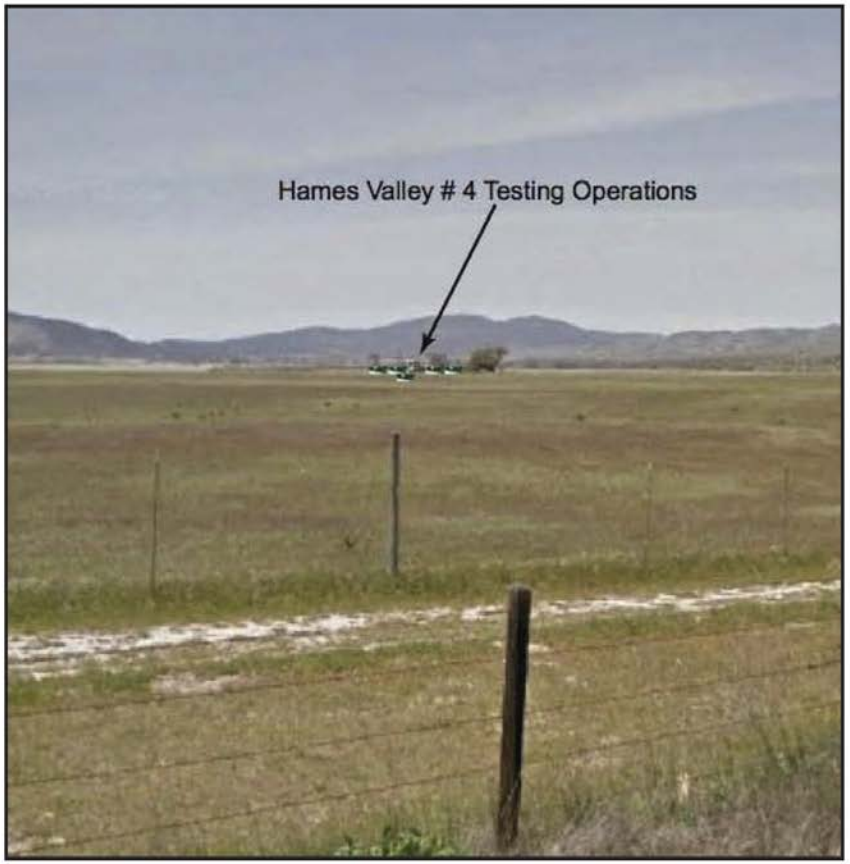
Hames Valley # 3 Project Site
Photo Simulation of Testing Operations
View to the East of the Proposed Hames Valley # 3 Project Site from Nacimiento Lake Drive
Approximately 0.82 Miles West of Well Site

Source: Robert A. Booher Consulting, 2016

Figure 5d HV Well Site #4 Photosimulation



Hames Valley # 4 Project Site
Photo Simulation of Drilling Operations
View to the West of the Proposed Hames Valley # 4 Project Site from Nacimiento Lake Drive
Approximately 0.51 Miles East of Well Site



Hames Valley # 4 Project Site
Photo Simulation of Testing Operations
View to the West of the Proposed Hames Valley # 4 Project Site from Nacimiento Lake Drive
Approximately 0.51 Miles East of Well Site

Source: Robert A. Booher Consulting, 2016

Therefore, grazing land on the project site and surrounding grassland and rolling hillsides dotted with trees would serve as scenic resources visible from Nacimiento Lake Road.

During drilling on the project site, each well site would house a 105-foot tall drilling rig and temporary facilities, such as crew support trailers and portable generators. During the potential production testing phase, it is expected that the drilling rig would be removed and replaced with a pumping unit and temporary tanks, however, exact operations would be subject to further CEQA review. Figures 5a through 5d depict existing views and photo simulations of the proposed exploratory well sites from Nacimiento Lake Road during both drilling and the potential production testing. As shown, drilling and testing equipment at well sites HV #1, #2, and #4 would be visible from Nacimiento Lake Drive, with exploratory well site HV #2 being the most visible. Rolling hills would block views of exploratory well site HV #3 from Nacimiento Lake Drive.

Although three of the four exploratory well sites would be visible to area motorists, the drilling and testing equipment would be relatively small compared to the vast open space that they inhabit. Views of surrounding grasslands and rolling hills would continue to dominate the viewshed. The drilling rigs, although 105 feet tall, would be slender and would not substantially block views, and would also be removed after completion of the exploratory drilling phase (anticipated to last approximately 19 days per well site). The proposed exploratory drilling and testing activities also would not involve removal of scenic resources such as mature trees, rock outcroppings, or historic buildings. Therefore, impacts on scenic vistas and resources from oil exploration would be *less than significant.*

Although the applicant does not currently propose long-term production, reasonably foreseeable long-term production of the four proposed wells may occur as a result of this project. Visually, long-term production would be similar to the proposed project, and therefore would have similarly less than significant impacts on scenic vistas and resources.

Aesthetics 1(c) – Less than Significant. The regional landscape is predominantly rural in character, with grazing operations surrounding well sites HV #2 and HV #3 and agricultural crop production surrounding well sites HV #1 and HV #4. Views throughout the area consist of expansive open space with grassland and crop cover dominating the valley floor and trees dotting surrounding rolling hillsides. The pastoral character of the area and the natural surrounding hills and ridges form a visually coherent pattern with high scenic quality and considerable visual interest.

The project would temporarily introduce to this pastoral landscape structures associated with oil and gas exploration. As shown in Figures 5a through 5d, the 105-foot tall drilling rig and other equipment would be visible from Nacimiento Lake Drive, with well site HV #2 being the most visible. However, the visible well sites would be relatively small compared to the vast open space that they inhabit. Views of surrounding grasslands and rolling hills would continue to dominate the viewshed. The drilling rigs, although 105 feet tall, would be slender and would not substantially block views, and would also be removed after completion of the drilling phase

(anticipated to last approximately 19 days per well site). Therefore, exploratory activities would not substantially degrade the site's rural visual character.

Although the implementation of the project would bring a change to the existing character of the site, the changes would not be substantial given the expansive nature of open space surrounding the project site and the relatively small disturbance area associated with each well site. Impacts on visual character and quality would be *less than significant*.

Aesthetics 1(d) – Less than Significant. There are no existing sources of light or glare on the project site (Source; IX.19). The nearest sensitive receptors to the project site are residences located over a mile north and a half mile south of the project site.

The project would temporarily increase lighting in the project area during exploratory drilling and testing activities. A natural gas flare to burn off any excess natural gas would be required during testing at each of the four proposed well sites. Each flare could burn 24 hours a day, 7 days a week, at about 50 thousand cubic feet (mcf) of natural gas per day. Flares would be mounted at a height of 2-3 feet above ground level. They would not be a significant source of light based on the size and height of the flares and their distance to sensitive receptors.

The possibility exists that portable lighting equipment would be used during the exploratory drilling phase. Any lighting during a later production phase would be subject to additional CEQA review. In addition, night security lighting would be installed as part of the project (Source: IX.1). As required by the County, all exterior lighting would be unobtrusive, down-lit, harmonious with the local area, and constructed or located so that only the intended area is illuminated and off-site glare is fully controlled. The applicant would be required to submit three copies of an exterior lighting plan which would indicate the location, type, and wattage of all light fixtures and include catalog sheets for each fixture. The lighting would be required to comply with the requirements of the California Energy Code set forth in California Code of Regulations (CCR), Title 24, Part 6. The exterior lighting plan would be subject to approval by the Resource Management Agency – Chief of Planning, prior to the issuance of any permits.

The project would also introduce minor sources of glare from the headlights of motor vehicles traveling to and from the project site, natural gas flares, and potentially from portable lighting equipment. However, given the distance and terrain between the project site and the nearest sensitive receptor (approximately 0.6 mile), glare would not adversely affect people in the area.

Therefore, impacts related to lighting and glare would be *less than significant*.

2. AGRICULTURE AND FOREST RESOURCES

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

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (Source: IX.5)	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? (Source: IX.6, 8)	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (Source: IX.8, 19)	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use? (Source: IX.)	☐	☐	☐	☒
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? (Source: IX.1, 7)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Agriculture and Forestry Resources 2(a) – Less than Significant. All four exploratory well sites are located on Grazing Land, as designated by the Department of Conservation California Farmland Mapping and Monitoring Program (Source: IX.5). Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Impacts would be *less than significant*.

Agriculture and Forestry Resources 2(b) – Less than Significant. Exploratory well site HV#3 is zoned Permanent Grazing (PG/40) and exploratory well sites HV #1, 2, and 4 are zoned Farmlands (F) under the County Zoning Ordinance (Source: IX.8). Measure Z amends the Monterey County General Plan Land Use Element to add Policy LU-1.23, among other policies. Policy LU-1.23 provides, "the drilling of new oil and gas wells is prohibited on all lands within the County's unincorporated areas. This Policy LU-1.23 does not affect oil and gas wells drilled prior to the Effective Date and which have not been abandoned." As noted above, Measure Z's effective date is currently stayed, although the stay can be lifted by order of the Monterey County Superior Court or with six months' notice from the County of Monterey. As described in Section IV.10, *Land Use and Planning*, "The exploration for and the removal of oil and gas" is currently allowed on Permanent Grazing and Farmlands sites with a Use Permit (Source: IX.8). Therefore, with the stay of Measure Z in effect, the proposed project would be consistent with the Monterey County Zoning Ordinance if a Use Permit is granted.

Exploratory well sites HV #2 and #3 are currently under a Land Conservation (Williamson) Act Contract (Land Conservation Contract No. 71-39 with Agricultural Preserve No 71-39), although the contract is currently in non-renewal. A notice of non-renewal was filed in September 2006, such that the contract is expected to expire by the end of 2017 (Source: IX.70). According to the contract, the erection, construction, alteration or maintenance of gas utility facilities is considered compatible with the contract (Source: IX.70).

Because the proposed exploratory wells are allowed under the existing site zoning and the provisions of the existing Williamson Act contract for sites HV#2 and #3, there would be no conflict and impacts would be *less than significant.*

Agriculture and Forestry Resources 2(c, d) – No Impact. As stated previously, the exploratory well sites are zoned Permanent Grazing and Farmlands under the County Zoning Ordinance. No forest land or timberland resources are located in the project area (Source: IX.8, 19). The project would not result in the removal of any trees. Therefore, there would be *no impact* to forest or timberland resources.

Agriculture and Forestry Resources 2(e) – Less than Significant. Exploratory well sites HV #1 and HV #4 are within parcels that are used for growing crops; however, the well sites are sited outside the harvested crop area. Exploratory well sites HV #2 and HV #3 are currently used for grazing (Source: IX.18). The proposed area of disturbance is 5.8 acres out of approximately 1,482 acres of land. This represents approximately 0.4 percent of the property. The limited amount of disturbance area would not convert farmland or grazing land to non-agricultural use.

Conflicts could occur between grazing cattle and operations at exploratory well sites HV #2 and HV#3. However, a 300-foot agricultural buffer would be provided around each well site (Source: IX.1), and the project applicant would inform the land owner about the timing of site preparation, drilling, and production testing to allow time for the land owner to move the cattle to a neighboring pasture, utilizing a cross-fence (Source: IX.7). If this is not an option for the land owner, the applicant would install temporary fencing to prevent cattle from accessing the

exploratory well sites (Source: IX.7). With these planned measures, impacts related to conflicts between agricultural operations and the proposed project would be *less than significant*.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan? (Source IX.10, 11)	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Source IX.1, 10, 12, Appendix A)	☐	☒	☐	☐
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (Source IX.1, 10, 12, Appendix A)	☐	☒	☐	☐
d) Result in significant construction-related air quality impacts? (Source IX.1, 10, Appendix A)	☐	☐	☒	☐
e) Expose sensitive receptors to substantial pollutant concentrations? (Source IX.10)	☐	☐	☒	☐
f) Create objectionable odors affecting a substantial number of people? (Source IX.10)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Air Quality 3(a) – Less than Significant. The Monterey Bay Air Resources District (MBARD), formerly the Monterey Bay Unified Air Pollution Control District (MBUAPCD), is the designated air quality control agency in the North Central Coast Air Basin (NCCAB). The NCCAB is designated in nonattainment-transitional for the state ozone standard, and nonattainment for the state PM_{10} standard. The NCCAB is designated unclassifiable/attainment for all other federal and state standards (Source IX.10). In 2017, MBARD adopted the 2012-2015 Air Quality Management Plan (AQMP) (Source IX.11). The ~~2016~~ 2012 – 2015 AQMP is an update to the 2012 Triennial Plan and addresses attainment of the state ozone standard.

According to MBARD's *CEQA Air Quality Guidelines*, a project that conflicts with or obstructs implementation of the AQMP would have a significant cumulative effect on regional air quality (Source IX.11). Consistency of an industrial or institutional facility subject to MBARD permit

authority is determined by assessing whether the emission source complies with all applicable MBARD rules and regulations, including emission offset and emission control requirements and/or whether project emissions are accommodated in the AQMP. Emissions from sources not subject to MBARD permit authority may be deemed consistent with the AQMP if such emissions are forecasted in the AQMP emission inventory.

All stationary sources at each of the four exploratory drill sites would be subject to MBARD standards to ensure that new development would be consistent with applicable requirements for stationary sources of criteria pollutants. The project incorporates policy- and rule-required implementation measures that would reduce related emissions, including MBARD's Rule 207 (New and Modified Stationary Source Review), Rule 402 (Nuisances), and California Clean Air Act (CCAA) and AQMP transportation control measures to reduce vehicular emissions.

The proposed project would not require the extension of infrastructure or otherwise result in population growth. Therefore, the project would not contribute to or result in exceedance of the AMBAG population growth forecasts on which the AQMP is based. In addition, as shown below, implementation of Mitigation Measure AQ-1 and adherence to MBARD's existing rules and regulations would reduce project emissions to below MBARD thresholds for criteria pollutants, including ozone precursors (ROG and NO_X) and large particulate matter (PM_{10}), for which the NCCAB is in nonattainment. If the project enters long-term production, which is currently not proposed, the applicant would be required to submit applications to MBARD to receive the necessary Authority to Construct and Permit to Operate. Because the project would be consistent with the ~~2016~~ 2012-2015 AQMP, this impact would be *less than significant.*

Air Quality 3(b, c) – Less than Significant with Mitigation Incorporated. The project's operational air quality impact includes emissions generated during the production testing phase and future potential long-term production. Due to the duration of the production testing phase, up to 18 months, emissions from this phase were evaluated against MBARD's operational thresholds. Although not currently proposed, the potential future long-term production is included in this analysis because it is reasonably foreseeable. Short-term emissions from the site preparation and drilling phases are discussed under item "d" below.

At the start of the production testing phase, a production rig would operate for five days at each site to prepare the well for testing. This analysis assumes that all four exploratory wells would undergo production testing simultaneously and for a maximum of 18 months. Table 3 lists the equipment and mobile sources that would be used on a maximum emissions day for the production testing phase, based on the applicant-prepared Construction Management & Operations Plan (Source: IX.1).

Table 3 Production Testing Equipment and Mobile Sources

Equipment Sources[1]			
Equipment Type	**Number of Equipment**	**Horsepower (HP)**	**Total Hours/Day**
Completion Rig	1	350	10
Pumping unit	4	50	24
Generator	4	45	24
Oil/Gas Separator	4	NA	24
Portable Tanks (500 barrel [bbl])	16 to 24	NA	NA
Testing Flare[2]	4	NA	24
Mobile Sources			
Vehicle Purpose	**Vehicle Type**	**Number (Round Trips)**	**Round Trip Distance[3]**
Worker Transport	Light Trucks	4	40
Oil Transport	Heavy Duty Truck	4	140
Produced Water Transport	Heavy Duty Truck	4	40
Portable Restroom Facility Pumping	Heavy Duty Truck	1	40

Source: Equipment is based on the applicant-prepared Construction Management & Operations Plan (Source: IX.1).
1. The production testing phase was assumed to include a pumping unit and generator at each well site operating 24 hours per day for production testing and operation of the "dog house."
2. External combustion flare with a maximum heat output of less than/or equal to 5 MMBtu/day, natural gas fired.
3. Round trip distance calculated from Paso Robles (60 miles), San Ardo (40 miles), and Coalinga (140 miles)

Based on the production rates at the nearby San Ardo oil field, approximately 15 miles north of the exploratory well sites, it is assumed that each well could produce approximately 150 barrels of oil per day, for a total of 600 barrels of oil per day if all four sites are subsequently approved for production, and produced. The applicant does not currently propose long-term production and any long-term production would require subsequent CEQA review and permitting by federal, State, and local agencies, including a Use Permit from the County. For the purpose of evaluating the potentially foreseeable future long-term production, the analysis assumes that Measure Z would not impact, limit or curtail production operations, and that a maximum of 24 worker trips and 13 heavy duty truck trips would access the project site per day during setup, including a truck for portable restroom facility pumping. Emissions from vehicle trips were calculated based on a round-trip to the project site from San Ardo for employees (40 miles) and from Paso Robles for trucks (60 miles). In order to present the most conservative approach to estimate emissions from the project, a pumping unit and generator were assumed to operate at full power 24 hours per day at each well site. Operational emissions also include operation of four flares 24 hours per day 7 days per week at 50,000 cubic feet of natural gas per day based on flow rates at nearby San Ardo fields. The analysis also accounts for access by dirt roads. The longest dirt road access would be to well site HV #1, which would extend for approximately 2.6 miles. This was included in the percent paved assumption for trip lengths.

Project emissions from off-road equipment and mobile sources were estimated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.1. Emissions from stationary and fugitive sources were calculated using emission factors obtained from the U.S. Environmental Protection Agency (U.S. EPA) AP-42 Compilation of Air Pollutant Emissions Factors (as amended). Refer to Appendix A for model outputs and assumptions.

MBARD has issued criteria for determining the level of significance for project specific impacts within its jurisdiction (Source IX.10). MBARD's recommended operational thresholds include:

- Direct (area source or stationary) plus indirect (operational or mobile) emissions of either ROG or NO_X that exceed 137 lbs/day
- On-site emissions of PM_{10} exceeding 82 lbs/day
- Direct (area source or stationary) emissions of CO exceeding 550 lbs/day
- Direct (area source or stationary) emissions of SO_X exceeding 150 lbs/day

Table 4 presents the proposed project's unmitigated peak-day operational emissions during the production testing phase and potential future long-term production. As shown therein, operational emissions for both production testing and long-term production would fall below MBARD's recommended thresholds for all pollutants, except for NO_X.

Table 4 Peak-Day Operational Emissions

Phase	**ROG** (lbs/day)	**NO_X** (lbs/day)	**CO** (lbs/day)	**SO_X** (lbs/day)	**PM_{10}** (lbs/day)	**$PM_{2.5}$** (lbs/day)
Production Testing						
On-site Sources	17.7	151.0	112.7	0.2	16.0	12.6
Off-site Sources	0.7	16.8	4.4	<0.1	23.7	2.7
Stationary Sources (flare)	--	1.4	7.4	--	--	--
Fugitive Sources (loading tanks)	27.9	--	--	--	--	--
Maximum Daily Emissions	**46.3**	**169.2**	**124.5**	**0.2**	**16.0** ***(on-site only)***	**15.3**
MBARD Threshold	137	137	550	150	82 *(on-site only)*	N/A
Is Threshold Exceeded?	*No*	*Yes*	*No*	*No*	*No*	*N/A*
Long-Term Production						
On-site Sources	17.1	141.8	108.4	0.2	15.7	12.4
Off-site Sources	0.9	12.2	6.8	<0.1	111.0	11.4
Stationary Sources (flare)	--	14.3	77.7	--	--	--
Fugitive Sources (loading tanks)	27.9	--	--	--	--	--
Maximum Daily Emissions	**45.9**	**168.3**	**192.9**	**0.2**	**15.7** ***(on-site only)***	**23.8**
MBARD Threshold	137	137	550	150	82 *(on-site only)*	N/A
Is Threshold Exceeded?	*No*	*Yes*	*No*	*No*	*No*	*N/A*

Note: NA = Not Applicable
On-site sources (fugitive dust and off-road equipment) and off-site emissions (vehicle trips) were calculated in CalEEMod version 2016.3.1 and emissions are reported from summer and winter results, whichever was greater. See Appendix A for CalEEMod results and stationary source calculation sheets.

Per MBARD Rule 207 (Review of New or Modified Sources), if the project enters long-term production, the applicant would be required to implement Best Available Control Technologies and/or emission reduction offsets and reduce operational emissions to below MBARD thresholds, to obtain an Authority to Construct and Permit to Operate from MBARD (Source IX.12). Therefore, adherence to existing rules and regulations would reduce emissions from long-term production to below applicable thresholds and air quality impacts from NO_X emissions

associated with long-term production would be less than significant. However, project emissions during the production testing phase would not necessarily require MBARD operational permits that would result in a reduction of emissions because operation would use portable equipment and emissions would be temporary. Therefore, mitigation would be required to reduce NO_X emissions from the production testing phase to below MBARD's applicable thresholds, regulate emissions from portable engines, and reduce off-site emissions.

AQ-1 **Tier 4 Construction Equipment.** Drilling rigs, pumping units, and generators utilized during the production testing phase shall meet U.S. EPA Tier 4 emission standards. The applicant shall submit an equipment list with equipment type, make, model year, and proof of Tier 4 certification to Recourse Management Agency to the satisfaction of the Chief of Planning. The applicant shall submit updated equipment lists throughout the production testing phase, if equipment is modified. The Resource Management Agency – Chief of Planning shall conduct periodic site inspections during the production testing phase to verify that construction equipment with appropriate Tier standards are used.

Timing and Monitoring: U.S. EPA Tier 4 construction equipment shall be used throughout the production testing phase. The project contractor shall ensure that equipment is U.S. EPA Tier 4.

AQ-2 **Portable Engine Consultation**. The project contractor shall consult with the Monterey Bay Air Resources District Compliance Division regarding any portable engines over 50 horsepower and portable equipment units that emit particulate matter greater than 2.0 pounds per day used during project construction. Following consultation the project contractor shall register applicable portable engine equipment with the Monterey Bay Air Resources District.

Timing and Monitoring: Consultation and registration with the Monterey Air Resources District shall occur prior to project construction.

AQ-3 **Construction Best Management Practices.** Construction at all four well sites shall implement the following practices when appropriate:

- Prohibit all grading activities during periods of high wind (over 15 miles per hour)
- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, or hydro-seed area
- Maintain at least two feet of freeboard in haul trucks
- Cover all trucks hauling dirt, sand, or loose material
- Plant vegetative ground cover in disturbed areas as soon as possible
- Cover inactive storage piles
- Install wheel washers at the entrance to construction sites for all exiting trucks

- Post a publically visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Air District shall be visible to ensure compliance with Rule 402 (Nuisance)

Timing and Monitoring: Construction Best Management Practices shall be applied during the site preparation and production testing phases. The project contractor shall be responsible for ensuring that the Best Management Practices are being implemented.

Table 5 presents the proposed project's mitigated peak-day operational emissions during the production testing phase with implementation of Mitigation Measure AQ-1. As shown therein, operational emissions for production testing would fall below MBARD's recommended thresholds for all pollutants. With implementation of Mitigation Measure AQ-1, air quality impacts would be *less than significant*.

Table 5 Peak-Day Operational Emissions with Mitigation

Phase[1]	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Product Testing						
On-site Sources	4.9	41.7	122.9	0.2	8.6	5.2
Off-site Sources	0.9	12.2	6.8	<0.1	111.0	11.4
Stationary Sources (flare)	--	1.4	7.4	--	--	--
Fugitive Sources (loading tanks)	27.9	--	--	--	--	--
Maximum Daily Emissions	**33.3**	**53.4**	**133.5**	**0.2**	**8.6** ***(on-site only)***	**8.0**
MBARD Threshold	137	137	550	150	82 *(on-site only)*	N/A
Is Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*N/A*

Note: NA = Not Applicable

1. On-site sources (fugitive dust and off-road equipment) and off-site emissions (vehicle trips) were calculated in CalEEMod version 2016.3.1 with implementation of Mitigation Measure AQ-1 and emissions are reported from summer and winter results, whichever was greater. See Appendix A for CalEEMod results and stationary source calculation sheets.

Air Quality 3(d) – Less than Significant. In addition to long-term operational emissions, the project would generate short-term emissions during construction. The project would occur in three phases: (1) site preparation, (2) drilling, and (3) production testing. Due to the duration of the production testing phase (up to 18 months), emissions from this phase were evaluated against operational thresholds under items "b" and "c" above. Site preparation would extend for four to seven days for each well site, for a maximum of 28 days, if all four well sites are prepared sequentially. It is assumed that the drilling phase would commence after site preparation ends and would extend for 19 days for each well site. Because one well would be drilled at a time, the drilling phase would extend for a maximum of 76 days. The potential future long-term production is reasonably foreseeable, but not currently proposed, and would take place on an ongoing basis for an unknown period of time. Emissions from potential future long-term production are examined under item "a" above.

Grading activities, on-site equipment, and mobile sources (workers, mobilization/demobilization, and fluid transport) would generate short-term construction emissions. The project would disturb a total of 5.8 acres, including 0.5 acre for construction of a new access route to well site HV #2. The largest disturbance area at any one time would be 2.2 acres at HV #2, including the access road (see Table 2 in Section II.A, *Description of Project*). Site access includes access by dirt roads. The longest dirt road access would be to well site HV #1, which would extend for approximately 2.6 miles; this distance was included in the percent paved assumption for construction trip lengths, as it represents the worst case scenario for peak day analysis.

Similar to operational emissions calculations, project emissions from off-road equipment and mobile sources were estimated using the CalEEMod software version 2016.3.1. Refer to Appendix A for model outputs and assumptions.

Table 6 and Table 7 list the equipment and mobile sources, respectively, that would be used on a worst case day for site preparation and drilling phases, based on construction details provided by the applicant.

Table 6 Equipment by Phase

Equipment Type	Number of Equipment	Horsepower (HP)	Total Hours/Day
Site Preparation Phase			
Grader/Front Loader	1	180	8
Backhoe	1	100	8
Roller/Compactor	1	180	8
Water Truck	1	246	8
Drilling Phase			
Crane	2	375	8
Fork Lift	1	400	4
Drilling rig Motor #1 (internal combustion engine)	1	1,000	24
Drilling rig Motor #2 (idle internal combustion engine)	1	1,000	24 (No External Load)
Mud Pump	1	1,000	24
Rig Generator	2	402	24
Small Generator	2	45	24

Source: Equipment is based on the applicant-provided Construction Management & Operations Plan (Source: IX.1)

Table 7 Mobile Sources by Phase

Vehicle Purpose	Vehicle Type	Number	Round Trip Distance[1]
Site Preparation Phase			
Worker Transport	Light Trucks/ Passenger Vehicles	3	60
Mobilization/Demobilization	Heavy Duty Truck	3	60
Portable Restroom Facility Pumping	Heavy Duty Truck	1	40
Drilling Phase			
Worker Transport	Light Trucks/ Passenger Vehicles	4	60
Mobilization and Demobilization	Heavy Duty Truck	4	60
Portable Restroom Facility Pumping	Heavy Duty Truck	1	40

1. Round trip distance calculated from Paso Robles (60 miles), San Ardo (40 miles), and Coalinga (140 miles).

MBARD reviews temporary projects on a case-by-case basis, but also recommends a threshold of 82 lbs/day of PM_{10} from direct (non-vehicular) sources for construction impacts (Source IX.10). Table 8 presents the proposed project's unmitigated peak-day construction emissions during site preparation and drilling. Therefore, the proposed project's construction-related impacts on air quality would be *less than significant.*

Table 8 Peak-Day Construction Emissions

Phase[1]	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Site Preparation						
On-site Sources	3.1	33.9	17.1	<0.1	10.1	5.2
Off-site Sources	0.2	3.4	1.5	<0.1	25.1	2.6
Total Emissions	3.3	37.3	18.6	<0.1	35.2	7.8
Drilling						
On-site Sources	21.9	313.6	132.0	0.5	15.8	12.2
Off-site Sources	0.3	4.4	2.0	<0.1	32.2	3.3
Total Emissions	22.2	318	134	0.5	48	15.5
Maximum Daily Emissions	22.2	318	134	0.5	15.8 *(on-site only)*	15.5
MBARD Threshold	NA	NA	NA	NA	82 *(on-site only)*	NA
Threshold Exceeded?	*NA*	*NA*	*NA*	*NA*	*No*	*NA*

Note: NA = Not Applicable

1. On-site sources (fugitive dust and off-road equipment) and off-site emissions (vehicle trips) were calculated in CalEEMod version 2016.3.1 and emissions are reported from summer and winter results, whichever was greater. See Appendix A for CalEEMod results.

Air Quality 3(e, f) – Less than Significant. Localized carbon monoxide "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal Ambient Air Quality Standards (AAQS) of 35.0 parts per million (ppm) or the state AAQS of 20.0 ppm. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptor locations, such as schools, hospitals, and residences.

According to MBARD's *CEQA Air Quality Guidelines*, there are five criteria under which CO hotspot modeling is required (Source IX.10):

I. Intersections or road segments that operate at levels of service (LOS) D or better that would operate at LOS E or F with the project's traffic; or
II. Intersections or road segments that operate at LOS E or F where the volume-to-capacity (V/C) ratio would increase 0.05 or more with the project's traffic; or
III. Intersections that operate at LOS E or F where delay would increase by 10 seconds or more with the project's traffic; or
IV. Unsignalized intersections which operate at LOS E or F where the reserve capacity would decrease by 50 or more with the project's traffic. This criterion is based on the turning movement with the worst reserve capacity; or
V. Project would generate substantial heavy duty truck traffic or generate substantial traffic along urban street canyons or near a major stationary source of CO.

As noted in Section VI.16, *Transportation/Traffic*, the project would not generate sufficient vehicle trips to influence exiting levels of service on area roadways. Because the project site is located in a rural area with relatively low existing intersection travel volumes and congestion as compared to larger urban areas, the project would not be expected to result in congestion that could cause a locally significant CO hotspot impact.

The four exploratory well site locations are spread over a 1,482-acre area in unincorporated Monterey County. Each well site is surrounded by grazing land and agricultural uses. There is no existing urban development in the vicinity of the project site. The exploratory well sites are located over 0.5 mile from the nearest residences. Given the distance of well sites to nearby receptors, the project would not result in emissions of toxic air contaminants or adverse odor impacts that would affect a substantial number of people or any sensitive receptors. Impacts would be *less than significant.*

4. BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Source: IX.1, 13-34)	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (Sources: IX 1, 13-20, 22, 24-27, 30-34)	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Source: IX.1, 13-20, 22, 24-27, 30-34)	☐	☐	☒	☐
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? (Source: IX.1, 13-20, 22, 24-27, 30-34)	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Source: IX.1, 13-20, 22, 24-27, 30-34)	☐	☒	☐	☐
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? (Source: IX.1, 13-20, 22, 24-27, 30-34)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Information regarding the biological resources at the project site is based on a review of available literature and databases that includes the following: Biological Assessment (Source: IX.13; California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (Source: IX.14); CDFW Special Animals List (Source: IX.15); CDFW Special Vascular Plants, Bryophytes, and Lichens List (Source: IX.16); California Native Plant

Society (CNPS) Online Inventory of Rare and Endangered Plants (Source: IX.17); and U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (Source: IX.18). A site visit was conducted by a Rincon Associate Biologist Samantha Kehr on March 9, 2017 (Source: IX.19).

Vegetation. Four vegetation types occur within the proposed project sites; ruderal/disturbed, active agriculture, non-native annual grassland, and oak woodland. Ruderal/disturbed habitat occurs at exploration well sites HV #1 and HV #4, as well as the existing access roads to all four sites, and consists primarily of disturbed soils and ruderal herbs (Source: IX.13). Non-native annual grassland is present at exploration well site HV #2 and HV #3 and within the proposed access road to HV #2 and consists of non-native grasses, ruderal forbs, and few native species (Source: IX.13). Oak woodland is present within portions of the well sites HV #3 and HV #4 s and consists of a relatively open canopy of coast live oak (*Quercus agrifolia*) and blue oak (*Quercus douglasii*). (Source: IX.13) Agricultural land is present at well sites HV #1 and HV #4 and consists of regularly plowed land and row crops. An ephemeral stream is present approximately 50 feet southeast of exploration well site HV #4 (Source: IX.13). The project would not remove oak woodland and would not directly impact stream habitat off-site.

Wildlife. Wildlife species observed or expected to occur on and near the project site include species typical of annual grassland, oak woodland, and disturbed habitats. Vegetation within the project area provides habitat for a variety of wildlife species. Oak trees within the oak woodland areas provide nesting habitat for songbirds and roosting habitat for bats. Annual grassland habitat provides foraging, nesting, and potential denning habitat for a variety of mammal and bird and species, including raptors. Small mammal burrows were observed within portions of the annual grassland within the project site. Ruderal/developed habitat provides foraging habitat for a variety of wildlife species including songbirds and mammals, but is altered such that it does not provide suitable breeding or aestivating habitat due to lack of cover and compacted surfaces that prevent den or burrow excavation (Source IX.13).

Special Status Plant Species. A total of 41 special status plant species are known to or have the potential to occur within the vicinity of the project site. However, the project site contains primarily disturbed vegetation and no suitable habitat for special status plant species exists within the project site. Due to the lack of suitable habitat, the literature and database reviews, and the findings of the biological surveys, no special status plants are expected to occur or become established within the project site (Sources: IX.13, 14, 22).

Special Status Animal Species. A total of 18 special status animal species are known to or have the potential to occur within the vicinity of the project site (Sources: IX.13, 14). Of these, 12 special status species documented in the general region have potential to occur within or immediately adjacent to the project site (Source: IX.13). The remaining species were dismissed from having a potential to occur due to lack of suitable habitat and/or lack of potential to be directly or indirectly impacted by the proposed project.

One special status species was observed during the March 9, 2017 site visit: a single golden eagle (Source: IX.19). Special status animals recognized by CDFW as Fully Protected, or Species of Special Concern and those that are state and/or federally listed, that have some

potential to occur on or immediately adjacent to the project site, or that warrant further discussion, are discussed in further detail below.

California tiger salamander. California tiger salamander (*Ambystoma californiense*; CTS) is a state and federally listed as threatened amphibian species. Marginally suitable potential upland aestivation habitat is present within the non-native annual grassland within exploration well sites HV #2 and HV #3 and the proposed access road to HV #2. Suitable habitat is also present in the non-native annual grassland adjacent to exploration well sites HV #1, HV #2, and HV #3, and access roads to HV #2 and HV #3. Burrows that were of appropriate size for use by this species were observed within the boundaries of exploration well site HV #3, along portions of the existing access road to exploration well site HV #3, and southwest of exploration well site HV #1. No CTS were observed during biological surveys and suitable breeding for this species was not observed within the proposed project sites or adjacent habitat during surveys. This species has not been documented within the boundaries of or in proximity to the proposed project site (Sources: IX.13, 14). The closest occurrence of CTS is from approximately 18 miles northwest of the project site within the USFWS designated Fort Hunter Liggett Management Unit for CTS. This occurrence represents the southwestern-most extent of the known range of CTS within the in Central California Distinct Population Segment (DPS) and considered disjunct from populations to the south (Source: IX.14, 34). Based on the lack of suitable breeding habitat within the project site, presence of only marginal upland habitat, and distant proximity to known occurrences, CTS is not expected to occur within the project site and impacts to this species are not expected occur during project activities.

Silvery Legless Lizard. Silvery legless lizard (*Anniella pulchra pulchra*) is a California species of special concern. Suitable habitat is present within the non-native annual grassland within exploration well sites HV #2 and HV #3, and proposed access road to exploration well site HV #2, as well as within the grassland adjacent to exploration well sites HV #1, HV #2, and HV #3, and access roads to exploration well sites HV #2 and HV #3. No silvery legless lizards were observed during the biological surveys. This species has not been documented within the boundaries the proposed project sites (Sources: IX.13, 14). The closest occurrence of silvery legless lizard is approximately 5 miles south of exploration well site HV #3 (Source: IX.14). Silvery legless lizard has a low potential to occur on the project site.

San Joaquin Whipsnake. San Joaquin whipsnake (*Masticophis flagellum ruddocki*) is a California species of special concern. Suitable non-native annual grassland habitat is present within exploration well sites HV #2 and HV #3, within the proposed access road to well site HV #2, and in the grassland adjacent to exploration well sites HV #1, HV #2, and HV #3, and existing access roads to exploration well sites HV #2 and HV #3. Burrows that were of appropriate size for use by this species were observed within the boundaries of well site HV #3 , along portions of the existing access road to exploration well site HV #3, and southwest of well site HV #1. No San Joaquin whipsnakes were observed during biological surveys and this species has not been documented within the boundaries of the proposed project sites (Sources: IX.13, 14). The closest occurrence of San Joaquin whipsnake is approximately 2.3 miles northeast of the exploration well site HV #3 (Source: IX.14). San Joaquin whipsnake has a moderate potential to occur on the project site.

Coast Horned Lizard. Coast horned lizard (*Phrynosoma blainvillii*) is a California species of special concern. Marginally suitable habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, within the proposed access road to the well site HV #2, and the grassland adjacent to the exploration well sites HV #1, 2, and 3 and the existing access roads to the exploration well sites HV #2 and 3. No coast horned lizards were observed during biological surveys; however, evidence of the lizard's prey species (i.e., granivorous ants) was found within the proposed project site and surrounding habitat. This species has been documented approximately 0.4 miles east of the proposed exploration well site HV # 3 (Sources: IX.13, 14). Coast horned lizard has a low potential to occur on the project site.

Burrowing Owl. Western burrowing owl (*Athene cunicularia*) is a California species of special concern known from the vicinity. Potential habitat is present throughout the proposed project sites and buffer areas within annual grassland habitat and agricultural lands. (Source: IX.13) California ground squirrel burrows were observed within the boundaries of the well site HV #3, along portions of the existing access road to the exploration well site HV #3, and southwest of the exploration well site HV #1 that may serve as potential for use by burrowing owls. No individual burrowing owls or sign of their presence (i.e., whitewash, castings, feathers, etc.) were observed during the biological surveys. Burrowing owls have not been documented within the proposed project sites. (Sources: IX.13, 14) The closest occurrence of burrowing owl is approximately 3.8 miles south of the well site HV #3 (Source: IX.14). Western burrowing owls may potentially occur within the project site.

Golden Eagle. Golden eagles (*Aquila chrysaetos*) are a California fully-protected bird species. Potential foraging habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, within the proposed access road to the exploration well site HV #2, and within the adjacent grassland of the exploration well sites HV #1, 2, and 3, and within the buffer area of the existing access roads to the exploration well sites HV #2 and 3. (Source: IX.13) No potential nesting habitat appropriate for use by this species was observed in the proposed project sites or adjacent habitat. (Source: IX.13) A single golden eagle was observed flying over the project site during the March 8, 2017 site visit by Rincon, but was not observed nesting. The closest occurrence of nesting golden eagles is approximately 5.3 miles south of the exploration well site HV #3. (Source: IX.14). Foraging golden eagles may occur; however, nesting eagles are not expected to occur on the project site.

California Condor. California condor (*Gymnogyps californianus*) is a federally listed endangered bird species. Potential foraging habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, within the proposed access road to the exploration well site HV #2, and within the adjacent grassland of the exploration well sites HV #1, 2, and 3 and existing access roads to the exploration well sites HV #2 and 3. No suitable roost sites or potential nesting habitat for California condor were observed in the project site adjacent habitat. (Source: IX.13) No individual condors were observed during biological surveys. This species has not been documented within the boundaries of or in proximity to the proposed project sites. (Sources: IX.14, 14) While California condor may occasionally fly over en route to foraging grounds, the species is not anticipated to occur in the proposed project sites or buffer areas based

on a lack of suitable roost and/or nest sites and lack of adequate forage. Foraging condors may occur; however, nesting or roosting condors are not expected to occur on the project site.

Pallid Bat. Pallid bat (*Antrozous pallidus*) is a California species of special concern. Suitable foraging habitat is present in the non-native annual grassland and roosting and foraging habitat is present within oak forest within the exploration well sites HV #2 and 3, within the proposed access road to the exploration well site HV #2, within the adjacent habitat to the exploration well sites HV #1, 2, and 3 and existing access roads to the exploration well sites HV #2 and 3. (Source: IX.13) No pallid bats were observed during biological surveys and no known roosts or potential maternity or nesting sites were detected in the project site or adjacent habitat. No pallid bats were observed during biological surveys. (Source: IX.13) This bat species has not been documented in the proposed project sites. (Sources: IX.13, 14) The closest occurrence of roosting pallid bats is approximately 5 miles south of the exploration well site HV #3 (Source: IX.14). Tree removal is not proposed and impacts to pallid bats or their roosts are not anticipated. Pallid bat has a low potential to occur on the project site.

Townsend's Big-eared Bat. Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern. Suitable foraging habitat is present in the non-native annual grassland and marginal roosting and foraging habitat is present within oak forest within the exploration well sites HV #2 and 3, the proposed access road to the exploration well site HV #2, and the adjacent habitat to the exploration well sites HV #1, 2, and 3 and the existing access roads to the well exploration sites HV #2 and 3. (Source: IX.13) No Townsend's big-eared bats or their roosts were observed during biological surveys and this bat species has not been documented in the proposed project sites. (Sources: IX.13, 14) The closest occurrence of roosting Townsend's big-eared bat is approximately 5.3 miles southeast of the exploration well site HV #3 (Source: IX.14). Tree removal is not proposed and impacts to Townsend's big-eared bats or their roosts are not anticipated. Townsend's big-eared bat has a low potential to occur on the project site.

American Badger. American badger (*Taxidea taxus*) is a California species of special concern. Potential habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, and the proposed access road to the exploration well site HV #2, and the grassland adjacent to the exploration well sites HV#1, 2, and 3 and the existing access roads to the exploration well sites HV #2 and 3 (Source: IX.13). However, no burrows of appropriate size for use by this species were observed during biological surveys and no individuals or sign (i.e., scat, tracks, digging, prey remains) of badger activity were observed in the proposed project sites or adjacent habitat (Source: IX.13). This species has not been documented within or in proximity to the proposed project sites (Sources: IX.13, 14). The closest occurrence of American badger is approximately 3.2 miles northeast of the exploration well site HV #3 (Source: IX.14). American badger has moderate potential to occur on the project site.

Salinas Pocket Mouse. Salinas pocket mouse (*Perognathus inornatus psammophilus*) is a California species of special concern. Suitable habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, and the proposed access road to the exploration well site HV #2, and grassland adjacent to the exploration well sites HV #1, 2, and 3, and the existing access roads to the exploration well sites HV #2 and 3 (Source: IX.13). Burrows

that were of appropriate size for use by this species were observed within the exploration well site HV #3, along portions of the existing access road to the exploration well site HV #3, and southwest of the exploration well site HV #1. No Salinas pocket mice were observed during biological surveys. This species has not been documented within the boundaries of or in proximity to the proposed project site (Sources: IX.13, 14). The closest occurrence of Salinas pocket mouse is approximately 6.1 miles northeast of the exploration well site HV #3 (Source: IX.14). Salinas pocket mouse has a low potential to occur on the project site.

San Joaquin Kit Fox. San Joaquin kit fox (*Vulpes macrotis mutica;* SJKF) is a mammal historically known from the vicinity of the project that is federally listed as endangered and state-listed as threatened. Potential foraging habitat is present within the non-native annual grassland within the exploration well sites HV #2 and 3, within the proposed access road to the well site HV #2, and in the habitat adjacent to the exploration well sites HV #1, 2, and 3, and the existing access roads to the exploration well sites HV #2 and 3 (Source: IX.13). However, no burrows of appropriate size for use by this species were observed during biological surveys. No individuals or sign (i.e., scat, tracks, digging, prey remains) of SJKF activity were observed in the proposed project sites or buffer areas. This species has been documented approximately 0.2 miles west of the existing access road to the exploration well site HV#4 (Source: IX.14). Foraging habitat would be limited within the project site based on the scarcity of small mammal burrows that would support a suitable prey base (Source: IX.13). SJKF has a low potential to occur on the project site.

Wildlife Movement Corridors. No regional wildlife movement corridors are known to exist in the vicinity of the project site (Sources: IX.13, 18). Local wildlife movement is typically focused on areas of low human disturbance, high availability of cover, and ease of travel. The majority of the well sites are currently disturbed and of low quality for wildlife movement due to low vegetative cover and past agricultural disturbance. Wildlife movement can be limited in areas containing human development, roads, fences, and cultivated areas lacking in cover. The project site consists of four small, somewhat scattered exploration well sites in disturbed areas that do not currently present optimum conditions for wildlife movement, nor would they constitute a major obstacle to movement post-project.

Native Trees. The Open Space and Land Use Elements of the Monterey County General Plan and the Monterey County Zoning Ordinance (Section 21.64.260) provide protections for any oak tree with a trunk that is over six inches in diameter at breast height (Sources: IX.25, 26). A number of oak trees occur adjacent to the proposed well sites and existing access roadways and would fall under the protection of these regulations. However, the proposed project has been designed to completely avoid these resources. Therefore, no impacts to oak trees are expected during project implementation.

Biological Resources 4(a) – Less Than Significant With Mitigation Incorporated. As discussed above, exploration well sites HV #2 and HV #3 and the proposed access road to exploration well site HV #2 have the potential to support silvery legless lizard, San Joaquin whipsnake, coast horned lizard, burrowing owl, pallid bat, Townsend's big-eared bat, American

badger, Salinas pocket-mouse, and SJKF. Activities within the project site could also impact breeding of these species should they take up residence nearby in the surrounding habitats.

If any of these species are encountered on-site, direct impacts could occur through death of the animal, such as through vehicle strikes or prolonged entrapment. If burrowing owl nests, SJKF dens, or American badger dens are within the vicinity of the project, indirect impacts could also occur if vibrations or noise from the project result in abandonment of active nests or dens. Further, the project would result in removal of suitable and pretty base for these species.

Direct impacts to Pallid bat and Townsend's big-eared bat may occur if bats are roosting nearby. Both of these species are very sensitive to disturbance of roosting sites. Potential direct impacts to bats also include harassment or injury if they are foraging within the project area during active construction.

Direct impacts to Salinas pocket mouse could occur by burrow collapse, prolonged entrapment, or during night work when the species is active if an individual is struck by a vehicle. Due to the relatively small project disturbance footprint and marginal habitat suitability within the project site, the project would likely not result in the death or injury of many individual mice, if any. Based on the range of the species and the availability of higher quality habitat within the vicinity of the project site, any deaths that may occur as a result of the project would not likely have a significant effect on the local population or the species as a whole (Sources: IX.13, 19). Specific mitigation is therefore not required for this species.

The site is within the range of California condor and golden eagle, and although the site lacks conditions optimal for foraging or nesting, it is possible that these species could occur in the vicinity. The project would not directly remove condor or golden eagle habitat or food sources, and would not obstruct condor movement. However, the project could generate microtrash that could be spread into surrounding habitats with some potential for condor or golden eagle foraging.

Project activity that occurs during the avian nesting season (February 1 to September 15) has the potential to directly impact nesting birds if nests are destroyed, or if project activity is sufficiently disruptive that birds abandon active nests.

Overall, impacts to special status species would be *less than significant with mitigation incorporated.* In order to minimize potential biological impacts to special status species with potential to occur within the project site, the following measures shall be implemented:

BIO-1 Worker Environmental Awareness Program. A County-approved biological monitor shall prepare a worker environmental awareness program (WEAP) training to be given to all personnel (site supervisors, equipment operators and laborers) which emphasizes the potential for special status species and nesting birds to occur within and immediately adjacent to the project site. The WEAP shall cover identification of these species, their habitat requirements, and applicable regulatory policies and provisions regarding their protection, and measures being implemented to avoid and/or minimize

potential impacts. A fact sheet or other supporting material containing this information shall be prepared and distributed to all of the workers on-site. Upon completion of training, employees shall sign a form stating that they attended the training and understand all the conservation and protection measures.

During training, contractors and personnel shall be instructed to allow any wildlife observed within the project area to move out of harm's way of their own accord, unimpeded.

The WEAP must contain the following specific information regarding SJKF: photographs describing and illustrating potentially occurring SJKF, description of SJKF habitat needs, a discussion of measures to be implemented for avoidance if one is observed, the identification of an on-site contact in the event the species is seen on the site, an explanation of the status of the species and its protection under the federal and state Endangered Species Acts, and a report of the historic occurrence of kit fox in the project area. The WEAP must specify the reporting process to the designated on-site contact if SJKF are seen on site. This contact is responsible for notifying RMA Planning of any sightings, and notifying regulatory agencies if warranted as specified in measure BIO-4.

The WEAP must contain the following specific information regarding California condor: photographs describing and illustrating California condor and differentiating this species from the common turkey vulture, a definition of microtrash, and description of specific microtrash measures to be implemented to avoid potential for impacts, measures for avoidance if a condor is observed, and the identification of an on-site contact in the event the species is seen on the site.

Timing and Monitoring: Training shall be conducted for new personnel before they initiate equipment mobilization onto each well site. The contractor shall be responsible for ensuring that all personnel working on-site comply with the guidelines.

Prior to the start of equipment mobilization, a copy of all written materials shall be provided to employees as part of the WEAP training. Because the production testing phase and potential long-term production may occur over an extended period, an initial training shall be conducted by a qualified biologist for site supervisors and project managers prior to initiation of equipment mobilization activities. WEAP materials shall be provided in written form to be used for subsequent trainings. Prior to new personnel beginning work, the previously trained site supervisor or project manager shall provide WEAP training materials for new employees and document that personnel who will work on site have received WEAP training. A sign-in log identifying all trained employees shall be submitted to the County within one week of each training session.

BIO-2 **Pre-disturbance Surveys**. Prior to equipment mobilization, within 14 days prior to start of activities, a qualified biologist shall conduct two pre-disturbance surveys at specified timing intervals to determine if special status species have moved into the

project site or within a 500-foot buffer (where visible and legally accessible). Species-specific measures are provided below in the event that special status species or their sign are found during preconstruction surveys.

Prior to equipment mobilization that commences within the nesting season, February 1 through September 15, a qualified biologist shall also conduct preconstruction surveys for nesting birds, including raptors, in all areas within 500 feet of proposed disturbance areas, where accessible. The required survey dates may be modified based on local conditions, as determined by the biologist based on observations in the field. Early removal of nest starts (incomplete nests in which eggs have not been laid) can be performed by the qualified biologist for common species to discourage mated pairs from nesting in areas subject to disturbance. Nest starts of special status birds shall not be disturbed without consultation with CDFW.

Active nests of native birds shall be protected with a no-work buffer. Buffer distance shall be a minimum of 100 feet for songbirds, 500 feet for raptors, and 0.25 mile for golden eagle. Prescribed buffers may be adjusted to reflect existing conditions such as ambient noise, topography, and level of disturbance from proposed activities in consultation with CDFW and the County.

Any nest buffer zones shall be clearly delineated to avoid disturbance to nesting birds. Depending on their proximity to disturbance areas, buffer zones may be designated in the field in various ways, including flagging, fencing, and/or signage.

Timing and Monitoring: The initial preconstruction survey shall be conducted within 14 days prior to construction activities. An additional survey shall be conducted immediately prior to the start of ground disturbance (within 24 hours) to verify absence of SJKF and burrowing owl. A report documenting results of the preconstruction surveys shall be submitted to Resource Management Agency – Chief of Planning within one week of completing the second and final survey.

If nest buffers and follow-up monitoring are required, the biologist shall submit a monthly monitoring report identifying active nests, monitoring results, and condition of buffer zones. Reports can be combined with other reporting requirements where appropriate.

BIO-3 Work Area Delineation and/or Flagging. Project site boundaries shall be clearly delineated at each well site by stakes and/or flagging to minimize inadvertent degradation or loss of adjacent habitat during site preparation and drilling. Staff and/or its contractors shall post signs and/or place fence around the proposed project sites to restrict access of vehicles and equipment unrelated to project operations. Fencing or flagging shall be kept in good maintenance and remain through production testing.

Timing and Monitoring: The initial delineation and staking and/or flagging of the site shall be completed prior to ground disturbance. The staking and/or flagging must be maintained throughout the duration of production testing.

BIO-4 SJKF Avoidance and Minimization Measures. All USFWS standardized recommendations for protection of SJKF shall be incorporated pursuant to the guidance for small projects. (Source: IX.27) These recommendations include, but are not limited to: den exclusion zones, project speed limits, food trash limitations, and firearms restrictions.

Timing and Monitoring: If required based on results of pre-activity surveys, exclusion zone barriers shall be maintained until all construction activities or operational disturbances have been terminated. At that time all fencing shall be removed to avoid attracting subsequent attention to the dens. If fencing is required for protection of dens, a report shall be submitted to the County Resource Management Agency to the satisfaction of the Chief of Planning by the project biologist documenting that exclusion zone buffers are in place.

If SJKF are observed on or within 200 feet of the project site, the project applicant or representative shall contact the County Resource Management Agency - Chief of Planning reporting the observation and documenting compliance with SJKF measures, as applicable. A report shall be submitted to Resource Management Agency to the satisfaction of the Chief of Planning upon completion of the project documenting compliance with SJKF measures. This report can be submitted with documentation of compliance with other conditions.

If SJKF are sighted in the project area, the project applicant or representative shall immediately notify CDFW, USFWS, and the County Resource Management Agency - Chief of Planning.

BIO-5 Burrowing Owl Mitigation Plan. If preconstruction surveys determine that burrowing owls are present within the project site and/or buffer area, a burrowing owl mitigation plan shall be prepared consistent with the CDFW 2012 Staff Report on Burrowing Owl Mitigation (Source: IX.28). This plan shall describe site-specific avoidance and minimization measures and incorporate all measures outlined in the CDFW 2012 Staff Report on Burrowing Owl Mitigation. These include, but are not limited to: avoidance of occupied burrows and passive relocation techniques.

Timing and Monitoring: If required, the Burrowing Owl Mitigation Plan shall be submitted to Resource Management Agency – Chief of Planning and CDFW prior to work that affects burrowing owls. The plan shall be approved by the County prior to implementation. Documentation shall be submitted to CDFW following approval.

BIO-6 Remove Micro-trash. During periods when personnel are present on each well site, project personnel shall regularly check project areas, pick up and contain micro-trash, and remove from the site at least once weekly.

Timing and Monitoring: Micro-trash cleanup and containment shall occur daily and removed from each site weekly. The applicant shall submit a report to the Resource Management Agency to the satisfaction of the Chief of Planning upon completion of the project documenting compliance with micro-trash cleanup requirements. This report can be submitted with documentation of compliance with other conditions.

BIO-7 **Condor Best Management Practices.** During all phases of the project, the applicant shall adhere to the following USFWS recommended California condor best management practices (BMPs):

- All surface structures which are identified as a risk to California condors shall be modified or relocated to reduce or eliminate the risk.
- All hoses or cords that must be placed on the ground due to drilling operations that are outside of the primary work area (immediate vicinity of the drilling rig) shall be covered to prevent California condor access. Covering will take the form of burying or covering with heavy mats, planks, or grating that will preclude access.
- All equipment and work-related materials (including, but not limited to, loose wires, open containers, rags, hoses, or other supplies or materials) shall be contained in closed containers either in the work area or placed inside vehicles.
- Ethylene glycol based antifreeze or ethylene glycol based liquid substances shall be avoided, and propylene glycol based antifreeze will be encouraged. Equipment or vehicles that use ethylene glycol based antifreeze or other ethylene glycol based liquid substances shall be inspected daily for leaks, including (but not limited to) areas below vehicles for leaks and puddles. Standing fluid shall be remediated immediately upon discovery. Leaks shall be repaired immediately. The changing of antifreeze of any type shall be prohibited onsite.

Timing and Monitoring: The project applicant shall adhere to BMPs to at all times during project construction and operations. The applicant shall submit a report to the Resource Management Agency to the satisfaction of the Chief of Planning upon completion of the project documenting compliance with BMPs. This report can be submitted with documentation of compliance with other conditions.

BIO-8 **Relocate reptiles out of work area.** If encountered during preconstruction surveys, San Joaquin whipsnake, coast horned lizard, and silver legless lizard shall be relocated out of direct project impact areas by the qualified biologist. During WEAP training (BIO-1) contractors and personnel shall be instructed to allow any reptiles observed within the project area to move out of harm's way of their own accord, unimpeded.

Timing and Monitoring: If relocations occur, the biologist shall submit results with the preconstruction survey report to the Resource Management Agency to the satisfaction of the Chief of Planning.

BIO-9 Badger Avoidance Measures. If potential badger dens are identified within or in close proximity to project activity areas, exclusion zones shall be established to prevent intrusion of workers on foot, vehicles, and equipment in close proximity to dens. During natal season (March 1 through June 30) dens within 100 feet of work areas shall be marked and avoided unless they are located outside existing fencing. Outside breeding season, dens within 50 feet must be flagged and avoided.

Timing and Monitoring: If required based on results of pre-activity surveys, exclusion zone barriers shall be maintained until all site preparation, drilling, or production testing activities have been terminated. At that time all fencing shall be removed to avoid attracting subsequent attention to the dens. If fencing is required for protection of dens, a report shall be submitted to the Resource Management Agency - Chief of Planning by the project biologist documenting that exclusion zone buffers are in place.

BIO-10 Special Status Bat Avoidance and Minimization Measures. Site preparation activities shall be restricted to daylight hours. If a non-maternal roost is found during pre-disturbance surveys (November through March), the qualified biologist, with approval from CDFW, shall install one-way valves or other appropriate passive relocation method. Maternal bat colonies shall not be disturbed. If a maternal colony is discovered, a no-work buffer of 100 feet shall be established.

Timing and Monitoring: If required based on results of pre-activity, non-maternal roots shall be relocated prior to construction activity. If a maternal colony is discovered the no-work buffer shall be maintained until all site preparation, drilling, or production testing activities have been terminated. At that time all fencing shall be removed to avoid subsequent attention to the maternal colony. If fencing is required for protection of the maternal colony, a report shall be submitted to the Resource Management Agency – Chief of Planning by the project biologist documenting that no-work buffer zones are in place.

With implementation of the above mitigation measures, impacts to special status species would be reduced to a *less than significant* level.

Biological Resources 4(b, c) – Less Than Significant. The project site does not contain riparian habitat or sensitive natural communities described within local or regional plans, policies, or regulations, nor does it contain wetlands; however, an ephemeral stream channel that is a potentially jurisdictional water of the State and the U.S. is present adjacent to exploration well site HV #4 (Sources: IX.13, 19). The project would not result in any direct impacts to this stream. The stream is downslope of the project site and is not separated from the project site by a complete natural or artificial topographic barrier. However, an earthen berm would be constructed around the perimeter of each well site to ensure that any unintended fluid discharge during drilling, production testing, and potential future production is confined to the site. Therefore, impacts to this ephemeral stream channel would be *less than significant*.

Biological Resources 4(d) – Less than Significant. The project site lacks any stream for migratory fish, and is not located within any critical habitat or otherwise identified wildlife migration or wildlife movement corridor (Sources: IX.13, 14, 19). Implementation of the proposed project would not substantially reduce movement opportunities for wildlife, and would have little effect on native vegetation cover. Therefore, impacts to migratory fish and wildlife movement corridors would be *less than significant.*

Biological Resources 4(e) – Less than Significant with Mitigation Incorporated. Activities associated with the project are not anticipated to require removal or pruning of the oak trees located within or immediately adjacent to the project area. However, some ground-disturbing activities may occur adjacent to oak trees, such as for creation of spill prevention/containment berms. Additionally, passenger vehicles and large trucks are expected to be on-site daily. Because oak trees are present within the project area, root and branch damage could occur if vehicles or equipment are operated or parked under trees. The following mitigation measure shall be implemented to avoid damage to trees immediately adjacent to the project area. Incorporation of the following mitigation measure would reduce impacts to native oak trees to a *less than significant* level.

BIO-11 Tree Protection. Limits of any ground-disturbing work within 25 feet of native trees shall be clearly flagged in the field. Parking shall not be permitted under trees. Parking locations for vehicles shall be designated away from oak trees. Workers will be informed of the need to avoid parking under oaks as part of WEAP training (Measure BIO-1). In addition, soils shall not be deposited around or over any trees in the project area.

Timing and Monitoring: Prior to the start of equipment mobilization, the applicant shall provide documentation to the Resource Management Agency to the satisfaction of the Chief of Planning that tree protection measures prohibiting parking underneath oak trees are incorporated into the WEAP training materials.

Impacts would be *less than significant with mitigation incorporated.*

Biological Resources 4(f) – No Impact. The project site is not located within an area covered under any adopted or proposed Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state conservation plan; therefore, there would be *no impact* (Sources: IX.22, 30).

5. CULTURAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5? (Source: IX.35, 36)	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5? (Source: IX.35)	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Source: IX.37, 38, 39)	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries? (Source: IX.40)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

The following analysis is based on a cultural resource investigation completed for the project site by Pacific Legacy, Inc. (Source: IX.35).

Cultural Resources 5(a) – No Impact. An archival and records search encompassing the project area was conducted by Pacific Legacy on April 29, 2016 at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University (Source: IX.35). That search encompassed a quarter-mile radius surrounding each proposed well site and each existing or proposed unpaved access road segment that would be used to access the well locations. The archival and records search included a review of the following:

- *The Historic Properties Directory* (California Office of Historic Preservation 2013);
- *The California Inventory of Historic Resources* (State of California 1976);
- *California Historical Landmarks* (California Office of Historic Preservation 1996);
- *California Points of Historical Interest* listing May 1992 (State of California 1992); and
- The National Register of Historic Places (NRHP) (*Directory of Determinations of Eligibility*, California Office of Historic Preservation, Volumes I and II, 1990; Office of Historic Preservation Computer Listing 1990 and updates)

The archival and records search revealed that no prior cultural resource studies had encompassed the proposed well sites or access roads, though seven studies had been previously conducted within a surrounding quarter-mile radius. The archival and records search and pedestrian survey further revealed that no known archaeological sites have been recorded within the project area, though a single historic period built environment resource – U.S. Highway 101 or El Camino Real – has been recorded roughly 0.15 mile to the northeast of the existing access road that leads

to exploration well sites HV #1 and HV #4 (Source: IX.36). Because the proposed project would not impact U.S. Highway 101, there would be no impact related to historical resources.

Cultural Resources 5(b) – Less than Significant. As stated previously, there are no known prehistoric, ethnographic, or historic period cultural resources within the project area (Source: IX.35). In addition, Pacific Legacy, Inc. sent out requests for contact with potential Native American stakeholders, and no responses were provided (Source: IX.35). Exploration well sites HV #1 and HV #4 have been subject to prior disturbance as a result of adjacent agricultural operations. Exploration well sites HV #2 and HV #3 and the proposed access road to exploration well site HV #2 are located on active grazing land. Despite these existing activities, ground disturbance associated with the proposed project has the potential to adversely affect previously undiscovered resources. Ground disturbance at each site would include minor grading, leveling, and placement of fill material.

The project would be required to comply with a standard Condition of Approval (COA) which requires that work be halted if cultural, archaeological, historical or paleontological resources are uncovered at the site until a qualified professional archaeologist can evaluate it. When contacted, the project planner and the archaeologist must immediately visit the site to determine the extent of the resources and to develop proper mitigation measures required for avoidance or recovery. Mitigation measures may include, but would not be limited to: capping of the area containing the resource using culturally sterile and chemically neutral fill material and/or construction monitoring.

Pursuant to compliance with this standard COA, impacts would be *less than significant.*

Cultural Resources 5(c) – Less than Significant. The Society for Vertebrate Paleontology (SVP) (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally (Reynolds 1990).

A single sedimentary geologic unit is mapped within the project boundaries (Dibblee & Minch 2006): Paso Robles Formation (QTp). This unit is mainly sandstone and conglomerate, with some mudstone and limestone, and minor amounts of gypsum and woody lignite. Conglomerate marks the base of the formation at most places and is common throughout the unit. Indigenous fossils are scarce in the Paso Robles Formation, but can include freshwater gastropods, ostracodes, diatoms and foraminifera, and incidental vertebrate fossils (bird) have been reported (Durham 1974). Direct evidence of the age of the Paso Robles Formation is lacking, but is constrained by other units to be of Pliocene-to-early Pleistocene in age (Durham 1974).

Due to the lack of vertebrate fossils and the commonality of sparse invertebrate fossils contained with the Paso Robles, this unit is considered to have "low potential" for paleontologic sensitivity.

Overall, ground disturbance associated with the construction of the proposed project has little potential to directly disturb geologic units with anything other than low paleontological sensitivity across the project site. Impacts to paleontological resources resulting from ground disturbing construction activity would be *less than significant*.

Cultural Resources 5(d) – Less than Significant. While no prehistoric archaeological material has been previously identified on the project site, there is a remote possibility that human remains could be uncovered during construction activities. If encountered, such resources could be damaged or destroyed. If human remains are encountered during ground disturbing activities, existing regulations would require that work within the area cease and that the Monterey County Coroner be notified immediately. If the remains are determined to be Native American, then the Native American Heritage Commission (NAHC) must be notified within 24 hours, as required by Public Resources Code 5097 (Source: IX.38). The NAHC would contact the designated Most Likely Descendant who would provide recommendations for the treatment of the remains within 24 hours. Pursuant to compliance with these existing requirements, impacts would be *less than significant.*

6. GEOLOGY AND SOILS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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? (Source: IX.2, 41) Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking? (Source: IX.2, 41)	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction? (Source: IX.2, 45)	☐	☐	☒	☐
iv) Landslides? (Source: IX.2, 45)	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil? (Source: IX.2, 45, 58)	☐	☐	☒	☐
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? (Source: IX.43, 44, 45)	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Chapter 18A of the 2007 California Building Code, creating substantial risks to life or property? (Source: IX.43)	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Geology and Soils 6(a) – Less than Significant.

Fault Rupture and Ground Shaking. As shown in the Monterey County General Plan Regional Faults Map, the Rinconada Fault Zone is located approximately three miles west of the project site (Source: IX.2). The nearest Alquist-Priolo Fault Zone is associated with the San Andreas Fault, approximately 20 miles east of the project site (Source: IX.41). Therefore, the potential for surface-fault rupture on the site is low. According to the Monterey County General Plan, the

project site is in an area of low ground shaking potential (Source: IX.2). The project would not construct any habitable structures or facilities that would be occupied by people, and there are no existing facilities on-site. Testing would require only a few personnel to be present for short periods of time and during production, fewer than five employees may be on-site for longer periods of time. Impacts related to fault rupture and ground shaking would be *less than significant.*

Seismic Ground Failure. Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressures resulting from seismic ground shaking. Liquefaction most often occurs in loose saturated silts and saturated, poorly graded, fine-grained sands. According to the Monterey County General Plan, the site has a low potential for liquefaction or other seismic ground failure, and there are no historic records of liquefaction present in the project area (Source: IX.2, 45). Exploration and the potential future production would not include habitable structures that would be occupied by people, and would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death resulting from liquefaction. Therefore, impacts related to seismic ground failure, including liquefaction, would be *less than significant*.

Slope Stability and Landslides. Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e. the shear strength of the slope material). According to the Monterey County General Plan, development shall be discouraged in areas that are within or adjacent to large active landslides. All four well sites are predominantly flat and, according to the General Plan, the site is in an area with low earthquake-induced landslide susceptibility (Source: IX.2, 45). Furthermore, exploration and the potential future production, as proposed by the project, would not include habitable structures that would be occupied by people, and would not expose people or structures to potential substantial adverse effects. Impacts related to slope stability and landslides would be *less than significant*.

Geology and Soils 6(b) – Less than Significant. Soil erosion is the removal of soil by water and wind. According to the Monterey County General Plan, the site is located in an area with low to moderate soil erosion hazard (Source: IX.2, 45). The project would disturb a total of 5.8 acres, including between 1.0 acre and 1.7 acres of disturbance for the well sites and 0.5 acre of disturbance for the new access route for exploration well site HV #2. The site preparation phase of the project – which would include clearing of grasses and other vegetation, minor grading, and compaction – has the potential to result in localized erosion. The amount of earthwork required at each proposed well site is shown below in Table 9. As shown therein, each site would result in a net export of soil.

Table 9 Earthwork Quantities

Well Site	Earthwork Quantities (Cubic Yards)		
	Cut	Fill	Net
HV #1	2,146	1,994	-153
HV #2	2,078	1,929	-149
HV #3	2,266	2,095	-171
HV #4	2,487	2,465	-22

Source: IX.1

An erosion control plan has been prepared for each well site. The plan includes sediment and control measures during project construction that would be maintained until all disturbed areas are stabilized. BMPs on the well sites would include: fiber rolls, rock at each entrance, and a silt fence surrounding the site. These BMPs would reduce runoff and sedimentation leaving the well sites. In addition, the proposed project would be required to implement County ordinances relating to erosion, including the general provision requiring that no person cause or allow the continued existence of a condition on any site that is causing or is likely to cause accelerated erosion (Source: IX.58). Lastly, because the project would disturb greater than one acre of land, activities at each site would require coverage under NPDES Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP), which must describe sediment and erosion control measures, runoff water quality monitoring, maintenance responsibilities, and other requirements. Pursuant to compliance with these existing requirements, impacts related to erosion would be *less than significant*.

Geology and Soils 6(c) - Less than Significant. Subsidence occurs when a large land area settles due to over saturation or extensive withdrawal of groundwater, oil, or natural gas. Areas susceptible to subsidence are typically composed of open textured soils that become saturated. These areas are usually composed of soils with high silt or clay content. Using the GIS mapper for Monterey County and Natural Resources Conservation Service's Web Soil Survey, the four proposed well sites are all located on generally silty clay loam or sandy loam soils (Source: IX.43, 44) Therefore, subsidence has the potential to occur. However, there is little documentation of widespread subsidence in Monterey County (Source: IX.45).

The proposed project consists of the construction of four new wells, production testing, and potential future production if deposits are found. The project does not include well stimulation or hydraulic fracturing, and would not require any groundwater extraction. If the production testing identifies large quantities of oil, testing would be stopped and a new permit would be required for further oil extraction. Exploration would not, therefore, result in extensive withdrawal of groundwater or oil. While testing may extract water mixed with some oil, the water would not be from a groundwater basin, as the well would be sealed from all groundwater. Potential future well operations would continue to be regulated by the State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR).

If the production testing identifies economically viable quantities of oil, it is reasonably foreseeable that the wells would be used for production, if Measure Z permits the conversion of exploration wells to production wells. Long term production would require subsequent CEQA review and permitting by federal, State, and local agencies, including a Use Permit from the County. Production from the four wells would increase the risk of subsidence since it would result in more withdrawal of water and oil from beneath the site. However, impacts associated with such subsidence would be insignificant because the anticipated extraction rate of 600 barrels per day, as is estimated for this project, accompanied by production from relatively deep, consolidated formations (approximately 4,000-6,000 feet below the ground surface) would likely cause only minor subsidence at the project site and immediate surroundings. Furthermore, there are no structures on or in the immediate vicinity of the well sites. As such, no structures would be impacted by the slight subsidence. Therefore, the potential for subsidence resulting from the proposed project to adversely impact people or structures would be *less than significant*.

Geology and Soils 6(d) – Less than Significant. Expansive soils experience volumetric changes with changes in moisture content, swelling with increases in moisture content and shrinking with decreasing moisture content. These volumetric changes can cause distress resulting in damage to concrete slabs and foundation. Shrinking and swelling are related to the clay content of soils, with clay rich soils being prone to swelling, and sand or gravel soils experiencing very little shrinking and swelling. The site is located in a region known to have clay loam soils and therefore likely to have a shrink-swell potential. (Source: IX.43) However, all structures would be temporary and the wells would be constructed and certified according to DOGGR and County building code regulations. Therefore, the proposed project would not include structures or roadways that would create substantial risks to life or property as a result of the presence of expansive soils. Impacts would be *less than significant*.

Geology and Soils 6(e) – No Impact. The project site would not require a septic system because a self-contained portable toilet facility would be used by employees throughout the project. There would be *no impact*.

7. GREENHOUSE GAS EMISSIONS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Source: IX.46-51, Appendix A)	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Source: IX.46-51, Appendix A)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (Source IX.46). Different types of GHGs have varying global warming potentials (GWPs). 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 emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (Source IX.47).

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. (Source IX.48) While these potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general scientific modeling tools are currently unable to predict what impacts would occur locally with a similar degree of accuracy.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by CARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines CARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 statewide goals. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (Source IX.49).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). CARB is currently working to update the Scoping Plan to provide a framework for achieving the 2030 target. The updated Scoping Plan is expected to be completed and adopted by CARB in 2017 (Source IX: 8).

Greenhouse Gas Emissions 7(a, b) – Less than Significant. MBARD has not established thresholds of significance for GHG emissions; however, it has recommended a threshold of 10,000 metric tons (MT) of CO_2e per year for stationary source projects (Source IX.50). Although MBARD has recommended this threshold, it is based on attaining the 2020 goal for AB 32. While the State has adopted the AB 32 Scoping Plan and multiple regulations to achieve the AB 32 year 2020 target, there is no currently adopted State plan to meet post-2020 GHG reduction goals. CARB is currently working to update the Scoping Plan to provide a framework for achieving the 2030 target set forth by SB 32 (Source IX.49). Achieving these long-term GHG reduction policies will require State and federal plans and policies for achieving post-2020 reduction goals.

Given the recent legislative attention and judicial action regarding post-2020 goals and the scientific evidence that additional GHG reductions are needed through the year 2050, the Association of Environmental Professionals' (AEP) Climate Change Committee published a white paper in 2015 recommending that CEQA analyses for most land use development projects may continue to rely on current adopted thresholds for the immediate future (Source IX.51). In addition, construction and testing proposed to be completed prior to 2020. This analysis assumes that potential future long-term production, if determined to be economically viable, would be begin immediately, also prior to 2020. Therefore, for the GHG impacts resulting from potential future long-term production, this analysis evaluates GHG emissions based on consistency with the existing 10,000 MT of CO_2e threshold, which is based on attaining the 2020 goal for AB 32.

The stationary source threshold is not intended for short-term construction emissions. However, because production testing would extend for over a year, this analysis compares short-term GHG

emissions from production testing phase against the long-term stationary source threshold, which represents a conservative approach to evaluating the significance of project emissions. In addition, GHG emissions from potential future long-term production were assessed. This analysis does not include transportation, refining, or combustion of oil since the oil would be sold on-site, and emissions associated with transportation, refining, and combustion of produced oil are appropriately attributed to entities that purchase and consume the produced oil. As described in Section VI.3, *Air Quality*, project emissions were estimated using CalEEMod, as well as emission factors obtained from the USEPA AP-42 Compilation of Air Pollutant Emissions Factors (as amended) and California's Mandatory Greenhouse Gas Reporting Protocol (40 CFR Part 98). Refer to Appendix A for model outputs and assumptions. Table 10 presents the project's unmitigated GHG emissions.

Table 10 Annual Project GHG Emissions

Sources[1]	**CO_2e (MT/year)**
Product Testing Phase	
On-site Sources	3,303
Off-site Sources	44
Stationary Sources (flare)	387
Total Annual Emissions (MT/year)	**3,734**
MBARD Threshold	10,000
Threshold Exceeded?	*No*
Long-Term Production[2]	
On-site Sources	2,988
Off-site Sources	66
Stationary Sources (flare)	4,068
Total Annual Emissions (MT/year)	**7,121**
MBARD Threshold	10,000
Threshold Exceeded?	*No*

Note: NA = Not Applicable

1. On-site sources (fugitive dust and off-road equipment) and off-site emissions (worker trips and vendor trips) were calculated in CalEEMod version 2016.3.1. Trips for long-term production are from typical operational phase, not maximum trips that would be expected during production set-up. See Appendix A for CalEEMod results and stationary source calculation sheets.

2. Long-term production is reasonably foreseeable, but not currently proposed.

As described above, the project's contribution to GHG emissions impacts and climate change would be considered significant if emissions would exceed 10,000 MT of CO_2e per year. The proposed project's GHG emissions of 3,734 MT of CO_2e per year during product testing and 7,121 MT of CO_2e per year during potential future long-term production would be below this threshold.

The proposed project would be required to comply with all State and local regulations intended to reduce GHG emissions from new development. Consistency with these State regulations and goals illustrates that the project would not conflict with the State's GHG-related legislation and would not contribute to the inability to meet reduction goals. The project would not conflict with any statewide emissions reduction strategies. In addition, as demonstrated above, the project would be consistent with adopted regional thresholds of significance for GHG emissions.

Therefore, the project would not conflict with any applicable state plan, policy or regulation intended to reduce GHG emissions, and this impact would be *less than significant.*

8. HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Source: IX.21)	☐	☐	☒	☐
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? (Source: IX.52)	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Source: IX.1)	☐	☐	☐	☒
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? (Source: IX.53, 54, 55)	☐	☐	☐	☒
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 for people residing or working in the project area? (Source: IX.1)	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? (Source: IX.1)	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Source: IX.2)	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (Source: IX.56)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Hazards and Hazardous Materials 8(a, b) – Less than Significant. Oil exploration and potential future production would result in "gross fluid," consisting of both oil and water. The oil and water would be separated in a wash tank and stored on-site in above ground tanks. When the tanks fill up, both the oil and water would be disposed of in an appropriate location. Oil would be sold and transported to the Coalinga Oil Field, located approximately 40 miles northeast of the project site. Wastewater would be stored in temporary tanks on the exploration well sites and removed by a permitted third party contractor, such as Patriot Environmental Services (U.S. EPA No. CAD053866794). The third party contractor would take the wastewater offsite for proper disposal. Transportation of hazardous materials would be required to comply with all California Department of Transportation, California Environmental Protection Agency, California DTSC, California Highway Patrol, and California State Fire Marshal regulations for transporting hazardous materials.

Drilling Phase. Hazardous materials common to drilling operations would be used and stored on site according to applicable federal, state and local regulations. Table 11 includes a list of hazardous materials that may be used on each well site for operating drilling equipment. The location of storage areas and haul routes are identified on the individual site plans for each well site.

Table 11 Drilling Phase Hazardous Materials

Hazardous Material	Maximum On Site (gallons)	Container Type
Diesel Fuel	10,000	Above Ground Tank
Motor Oil/Lube Oil	330	55 Gallon Drums
Transmission Oil	330	55 Gallon Drums
Nitrogen (Compressed Gas)	60	Cylinder

The proposed project would not result in the production of hazardous waste as defined and regulated by Titles 22 and 23 of the CCR. Hazardous materials and non-hazardous waste would be transported by a licensed transportation company. The project would generate non-hazardous designated waste, including drilling muds and oily wastes, which can be disposed of in a permitted Class II disposal facility. If any waste tests positive as a hazardous waste, it would be transported by truck and disposed of at the Kettleman Hills Waste Management Landfill. The Kettleman Hills Waste Management Landfill facility is located approximately 47 miles northeast of the project site.

Production Testing/Well Maintenance. Minor quantities of chemicals may also be needed on-site for well maintenance. For well maintenance where acid is used, an acid wash may be used during production testing to ensure the perforations in the well casing at depth remain open and clear. When the well is put back on production after a wash, the acid recovered would be pumped out of the well and disposed of by a licensed contractor at an appropriate and licensed hazardous waste facility. Any acidizing of the well would be at the nominal pressure necessary for cleaning perforations and far lower than pressure necessary to fracture the formation. Quantities of the chemicals required for well maintenance would vary, but all such maintenance is conducted at

pressures well below 'fracturing' pressures and immediately after maintenance, the well is produced (meaning fluid is pumped out of it). Anything put down the well during maintenance is the first to be recovered. Because maintenance liquids, including acid, would be recovered immediately after maintenance activities, risk of exposure due to a hazardous release of chemicals belowground is less than significant.

During the production testing period, any produced natural gas would be flared in order to minimize emissions of methane and VOCs. In addition, operation of the flare would be subject to Monterey Bay Air Resources District (MBARD) permitting requirements, which regulate the volume and concentration of emissions from new stationary sources of toxic air contaminants and criteria air pollutants (also refer to Section IV.3, *Air Quality*). Liquids produced in association with the gas would be stored in portable tanks for transportation to an off-site facility. Therefore, this impact would be less than significant.

Production/Operation. During potential operation, appropriate spill prevention and containment measures would be analyzed and implemented. These would include, but not be limited to: design and implementation of a spill prevention control plan and/or construction of a spill containment berm. Industry standard well maintenance would also occur, including the periodic acid or diesel wash of the well bore in order to clean out the perforations in the production string of casing. The applicant must comply with State and local regulation regarding use and storage of hazardous materials and containment of spills. For example, California Code of Regulations (CCR) Title 26 establishes criteria for hazardous material identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. The Monterey County Health Department lists the County Hazardous Material Management Services (HMMS) as the designated local Certified Unified Program Agency (CUPA) to verify proper storage, handling, and disposal of hazardous materials. In addition, HMMS provides emergency response 24 hours a day, seven days a week, for hazardous material releases and spills. .

Subject to existing local and State regulations, risk of exposure due to a hazardous release of chemicals aboveground would be less than significant.

Receptors. The nearest receptors to the project include residences located approximately a 0.6 mile southwest of exploration well site HV #1, 0.9 mile southwest of exploration well site HV #2, 1.0 mile northeast of exploration well site HV #4, and 1.4 miles west-northwest of exploration well site HV #3. Based on this distance, the potential for contact with hazardous materials would be low. In addition, the project would be required to adhere to handling and disposal requirements as outlined in Title 22 CCR. Safety requirements, such as proper maintenance of tanks, regular inspections, emergency preparedness plans, and appropriate tracking and reporting for shipping of materials would be required per Title 22 CCR. (Source: IX. 52) Compliance with applicable Federal, State, and local ordinances, regulations, and standards would be required. These would include, but are not limited to, AB 1960, which requires that operators develop a spill contingency plan and file it with DOGGR and Occupational Safety and Health Administration (OSHA), which provides standards and

directives pertaining to flammable and combustible liquids, handling and storage of oil, and fire protection. Adherence to these regulations and requirements would reduce impacts from hazardous materials to a *less than significant* level.

Hazards and Hazardous Materials 8(c) – No Impact. No schools are located within ¼ mile of the project site. The nearest school to the project site is Bradley Elementary School, located approximately three miles east of exploration well site #4. There would be *no impact*.

Hazards and Hazardous Materials 8(d) – No Impact. The Department of Toxic Substances Control Envirostor Database and the RWQCB Geotracker Database were checked for potential hazardous material sites in the project area. The databases revealed no hazardous material sites within 1,000 feet of the project site (Source: IX.53, 54). The Environmental Protection Agency's Superfund Enterprise Management System (SEMS) database was also checked for hazardous material facilities, and yielded no facilities (Source: IX.55). Therefore, the project site is not included on a list of hazardous materials sites and there would be *no impact*.

Hazards and Hazardous Materials 8(e, f) – No Impact. The project site is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. The nearest airstrip is located at the San Ardo Oil Field, which is approximately 12 miles north of the Hames Valley sites. The Camp Roberts Heliport is located five miles west of the site, and is operated by the U.S Army. The proposed project would not expose people or structures to airport hazards. There would be *no impact*.

Hazards and Hazardous Materials 8(g) – No Impact. All public thoroughfares and private roads are considered potential evacuation routes according to the Monterey County General Plan. However, no specific evacuation or emergency plan is included in the General Plan and the project would not alter the site in any way that would impair an adopted emergency response or evacuation plan (Source: IX.2).

Exploration well site HV #2 does not have an existing access road. The project would include construction of a 0.2 mile long access road to the well site from an existing driveway and farm access road near Nacimiento Lake Drive. This would allow for access in case of a potential emergency at exploration well site HV #2.

The Construction Management and Operations Plan for the project contains the Spill Contingency Plan (Plan) which is also known as the Hazardous Materials Business Plan Module. The Plan contains evacuation plans, emergency contacts, emergency resources, and trainings specifically for the project. The measures and guidelines outlined in the Plan would not interfere with existing emergency response plans for the County, and has been provided as a project specific auxiliary emergency plan. There would be *no impact*.

Hazards and Hazardous Materials 8(h) – Less than Significant. The project is located in an agricultural area within unincorporated Monterey County. As indicated on CAL-FIRE Fire Hazard Severity Zone maps, all four well sites are on lands with moderate risk of fire hazards (Source: IX.56). The project, however, would not expose people or structures to this risk as no

permanent residences or other structures would be located on the site. As discussed in Section IV.15, *Public Services*, the site is adequately served by the CAL-FIRE South County. Impacts would be *less than significant*.

9. HYDROLOGY AND WATER QUALITY **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements? (Source: IX.1)	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (Source: IX.57)	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (Source: IX.58)	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Source: IX.58)	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Source: IX.58)	☐	☐	☒	☐
f) Otherwise substantially degrade water quality? (Source: IX.1)	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (Source: IX.59)	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (Source: IX.59)	☐	☐	☐	☒

9. HYDROLOGY AND WATER QUALITY **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (Source: Source: IX.2)	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow? (Source: Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Hydrology and Water Quality 9(a, f) – Less than Significant. The project would include drilling and production testing (exploration) for oil and gas at four new well sites, and potential future production at each of the wells. The proposed project is an exploratory effort to assist in determining whether oil is available in commercial quantities at the project location. During the drilling phase water would be supplied by the property owner and a water tank would be set up and stored on-site. Surface casing would be set and cemented around the drilling rigs and blowout prevention equipment installed and tested at each wellhead (Source IX.1). Well casing is designed to protect surface and underground waters suitable for irrigation or domestic purposes, and applicant must comply with State well construction standards whose purpose is to establish zonal isolation. Zonal isolation means that the oils coming up the well from the productive underground geologic zone would not escape the zone and migrate into other geologic zones that might contain fresh or useable water.

To achieve zonal isolation, State regulations require that a cement barrier be placed between the well and casing and surrounding geologic stratum. The cement bonds to the surrounding rock and well casing and is intended as a barrier against fluid migration in an effort to ensure safe drilling operations and the long-term structural integrity of the well. Cement barriers must meet State regulations for strength and integrity (CCR, Title 14, 1722.3 – 1722.4 and Public Resources Code Section 3106). Metal casing, which can be several layers depending on the depth of the well, also seeks to separate the fluids going up and down a well from the surrounding geology in an effort to protect water quality. If the integrity of any of the wells is compromised by ground movement or other mechanisms, the well operator must remediate the well to ensure zonal isolation. Sufficiently weighted drilling fluid would be used as a further method to prevent uncontrolled flow from the well. The project applicant would use an industry standard fresh water, clay based drilling fluid for the exploration wells. Additional quantities of drilling fluid would be available at each of the four well sites.

During exploration, the gross fluid would be separated into oil and water. The wastewater and oil would be stored on-site in four- to six-barrel portable, enclosed steel tanks for transportation to off-site facilities. The locations of the storage area for each well site are shown in Figures 4a through 4d. Wastewater would be removed from the exploration well sites by a licensed third

party vendor that would truck the water offsite for proper disposal. The offsite facility for waste disposal would be subject to Waste Discharge Requirements, NPDES permit requirements, and/or Monitoring and Reporting Programs as required by CCRWQCB. In addition, an earthen berm would be constructed around the perimeter of each well site to ensure that any unintended fluid discharge during drilling and production testing is confined to the site.

Similar to exploration, during potential future production, the gross fluid would be separated into oil and water. The water and oil would be stored on-site in permanent tankage facilities that safely contain wastewater until it can be picked up by a third party contractor specifically employed for disposal tasks. The permanent tanks would be fully enclosed with a vapor recovery system. The project applicant may also apply for an injection well to dispose of wastewater. An injection well would be regulated by the U.S. EPA under the Safe Drinking Water Act. The U.S. EPA's Underground Injection Control (UIC) program (40 CFR Parts 144-148) is a permit program that protects underground sources of drinking water by regulating five classes of injection wells. Upon the Effective Date of Measure Z, any vested wastewater injection operation would be subject to a five-year amortization period. The injection well owner could, under the terms of Measure Z, apply to the Monterey County Planning Commission for a ten-year extension of the amortization period. However, production would require future CEQA review and a Use Permit from the County.

An agricultural drainage is located approximately 50 feet southeast of the pad limits of exploration well site HV #4. An erosion control plan has been prepared for exploration well site HV #4 that includes sediment control measures during project construction that would minimize runoff and pollutants leaving the site, thus maintaining the water quality of the drainage. During the unlikely event of a spill during project operation, fluids are expected to be contained on the well site by an earthen berm and would not enter the creek. The project applicant has developed a Spill Contingency Plan and all workers on-site would be involved in an orientation that includes discussion of the Plan. The Spill Contingency Plan includes a list of steps to be taken when there is a spill such as contacting the Emergency Coordinator and establishing a perimeter around the site, thus containing the spill.

Because surface casing would be constructed prior to project drilling, all wastewater generated by the project during well exploration would be disposed of off-site by a licensed third party vendor at existing, permitted, and regulated facilities. Potential future long term production would include permanent storage tanks for wastewater. Wastewater would either be removed from the well site and disposed of by a licensed third party vendor or the applicant would apply for an injection well. An injection well would need to be approved by federal and state agencies.

Wastewater would be properly stored and removed from the well sites by a licensed contractor, or subject to permit approval for an injection well; therefore, it would not result in water quality contamination, and impacts related to water quality would be *less than significant*.

Hydrology and Water Quality 9(b) – Less Than Significant. Water supplies for personnel and the portable bathroom facilities on-site would be brought onto each well site and stored in a 500-gallon water tank (one tank at each well site). It is anticipated that each tank would be refilled

once or twice while drill crews are on location. The water would be used by employees on-site for hand-washing and is also required for fire safety. The locations of water tanks for each well site are shown on Figures 4a through 4d. Water for drilling and production testing would be provided by the property owner. The property owner has a well in the project vicinity that draws from groundwater. This well would be used to provide water for the water storage tanks on the exploratory well sites. The well draws water from Paso Robles Groundwater Basin in the Bradley Sub-Area. Total water use in 2006 was about 7,226 acre feet (AF). Total demand for water in the sub-area increased by about 1,000 AF between 1997 and 2006. There is one well included in the groundwater monitoring network of the Monterey County Water Resources Agency that monitors groundwater levels in the sub-area. Groundwater monitoring results from 1960 to 2010 show minor fluctuations in the groundwater level. Therefore, groundwater is not declining at a rate of concern for groundwater users in the sub-area (Source IX.71).

Approximately 4,000 gallons of water (0.01 AF) is anticipated to be used during exploration. This includes filling each 500-gallon tank on each of the four well sites two times during production testing. Because groundwater decline in the project vicinity is not of concern and because the project would use a negligible amount of groundwater, impacts to groundwater would be less than significant.

During potential future production of the four wells, water tanks would be required. Each well site would have a 500-gallon water tank. Groundwater would be delivered from the property owner, using the same well as during exploration, and would be topped off infrequently during production. Additionally, future production activities that may potentially require a water supply would be subject to further permit review including CEQA review and application for a Use Permit from Monterey County, thereby ensuring that potentially adverse impacts are avoided. Therefore, future production would not substantially affect surface or groundwater supplies in the project vicinity.

The proposed project would drill and test wells at a depth of 4,000 to 6,500 feet. Public-supply wells are typically drilled to depths of 200 to 650 feet, which is intended to approach the bottom of the groundwater basin (Source: IX.57). All four wells would be at depths lower than the groundwater table, which would protect the groundwater table from potential water quality degradation. Furthermore, as discussed above, the wells would be required to be sealed from the groundwater table using casing. Casing lines the inside of the borehole ensure that materials within the borehole would not contact groundwater and water quality would not be affected. In addition, the applicant must comply with State standards for casing. Therefore, based on the applicant's compliance with all federal, State, and local regulations regarding oil well construction, the oil wells would be sealed from the groundwater table and water that may be pumped to the surface during exploration and production activities would not be drawn from the public supply sources (as noted above, groundwater wells are located at far shallower depths than the proposed exploratory wells). Therefore, the pumping of oil during exploration and production would not affect the availability or quality of groundwater drawn from the public supply wells.

Impervious surfaces at each well site would include the following: concrete pad, mud pit, mud pumps, pipe trailer, drawworks, water and fuel tanks, generator house, pipe rack area, dog house, self-contained toilet, and a fire water tank. The pad for the installation of the pumps would be 0.9 acre for exploration well site HV #1, one acre for exploration wells sites HV #2 and #3, and 0.7 acre for exploration well site HV #4. A total of approximately 3.3 acres would be converted to impervious surfaces for the concrete pads. The total acreage of the property is approximately 1,482 acres. Impervious surfaces from the project represent less than one percent of the project site. Therefore, the project would not substantially increase impervious surface coverage on any of the four well sites and the project would not inhibit groundwater recharge.

As discussed above, groundwater decline is not an issue in the project vicinity, indicating that the underlying groundwater resources are not overdrafted, and it is reasonably anticipated that the use of local groundwater is occurring within the limits of local sustainable yield. Additionally, the project would use a minimal amount of groundwater, limited to a temporary period specific to the proposed production testing operations. The project wells would be properly encased to ensure that groundwater quality is not affected, and would be drilled to depths far greater than the local supply wells, thereby ensuring that public supply availability is not affected. Therefore, impacts related to groundwater supplies and groundwater recharge would be *less than significant*.

Hydrology and Water Quality 9(c, d, e) – Less than Significant. An agricultural drainage is located approximately 50 feet southeast of the pad limits of exploration well site HV #4, outside of the project disturbance area. As discussed in Section IV.4, *Biological Resources*, the drainage is an intermittent stream that flows into the Salinas River. Exploration ell sites HV #1, #2, and #3 do not have drainages on-site or in the site vicinity.

An erosion control plan has been prepared for each well site. The plan includes sediment and control measures during project construction that would be maintained until all disturbed areas are stabilized. BMPs on the well sites would include: fiber rolls, rock at each entrance, and a silt fence surrounding the site. These BMPs would reduce runoff and sedimentation leaving the well sites.

The proposed project would be required to implement County ordinances relating to erosion, including Chapter 16.08.340, which requires that all disturbed surfaces resulting from grading operations to be prepared and maintained to control erosion, the general provision requiring that no person cause or allow the continued existence of a condition on any site that is causing or is likely to cause accelerated erosion (Source: IX. 58). In addition, because the project would disturb greater than one acre of land, activities at each site would require coverage under NPDES Construction General Permit, which requires preparation of a SWPPP, which must describe sediment and erosion control measures, runoff water quality monitoring, maintenance responsibilities, and other requirements. The project would marginally increase impervious surfaces, but not to a degree that would not change on-site or off-site drainage patterns. Impacts to on- and off-site sedimentation and runoff would be *less that significant*.

Hydrology and Water Quality 9(g, h) – No Impact. The project site is not located in a 100-year floodplain (Source: IX. 59). Therefore, the project would not place housing or structures in a 100-year flood hazard area. There would be *no impact*.

Hydrology and Water Quality 9(i) – No Impact. The project site is approximately four miles north of the San Antonio dam and approximately seven miles northeast of the Nacimiento dam. As shown in Figure 8d of the Monterey County General Plan, the project site is not in an inundation area from a dam or levee (Source: IX. 2) There would be *no impact*.

Hydrology and Water Quality 9(j) – No Impact. Tsunamis and seiches, or seismic waves, are generated from undersea or underground movement. Due to its location approximately 30 miles east of the Pacific Ocean and four miles from Lake San Antonio, the project area would not be unsafe during either a tsunami or a seiche. The project site is relatively flat and located away from crests and very steep ridges (Source: IX.1). Therefore, the project site is not located in a hazard area for mudflows. There would be *no impact*.

10. LAND USE AND PLANNING **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community? (Source: IX.1)	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (Source: IX.60, 61)	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan? (Source: IX.62)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Land Use and Planning 10(a) – No Impact. The proposed project would be located on existing properties in southern unincorporated Monterey County. There are no structures or infrastructure on the well sites and the project would not involve any new structures that would physically divide an established community. There would be *no impact*.

Land Use and Planning 10(b) – Less than Significant. The project site is located in unincorporated Monterey County and would be governed by the Monterey County General Plan and the County Code. Measure Z amends the 2010 Monterey County General Plan to add Policies LU-1.21, LU-1.22, and LU-1.23. Litigation challenging Measure Z is currently pending, and Measure Z's effective date is currently stayed, although the stay can be lifted by order of the

Monterey County Superior Court or with six months' notice from the County of Monterey. Policy LU-1.21 prohibits land uses in support of well stimulation treatments, including hydraulic fracturing. The project does not include well stimulation treatments. Policy LU-1.22 prohibits "the development, construction, installation, or use of any facility, appurtenance, or above-ground equipment, whether temporary or permanent, mobile or fixed, accessory or principal, in support of oil and gas wastewater injection or oil and gas wastewater impoundment" with provisions for an amortization period. Policy LU-1.23 prohibits the drilling of new oil and gas wells. Policy LU-1.23 provides, "the drilling of new oil and gas wells is prohibited on all lands within the County's unincorporated areas. This Policy LU-1.23 does not affect oil and gas wells drilled prior to the Effective Date and which have not been abandoned."

As noted above, Measure Z's effective date is currently stayed. With the stay in effect, the exploratory wells are consistent with the General Plan and with County zoning if a Use Permit is granted.

The 2010 Monterey County General Plan Conservation and Open Space Element contains several policies applicable to the proposed project, specifically policies related to mineral resources. Policy OS-2.1 calls for the protection of potentially significant mineral deposits from on-site and off-site land uses that would be incompatible with mineral extraction activities. The proposed project is located on existing and historical agricultural and grazing lands and the nearest residences are approximately one mile from the exploratory drill sites. Therefore, the project would not drill wells near incompatible uses. Policy OS-2.2 states that mineral extraction operations should be consistent with the Surface Mining and Reclamation Act (SMARA) as well as other applicable standards. The proposed project would be consistent with SMARA as well as specific U.S. EPA and DOGGR regulations for drilling and operation because the proposed project would file a Notice of Intent to Drill a New Well with DOGGR and would be required to meet agency standards and follow agency regulations.

The project site is zoned Farmlands (F/40) (exploration wells HV #1, 2, and 4) and Permanent Grazing (PG) (exploration well HV #3) in the County's Zoning Code. Under the County Code "The exploration for and the removal of oil and gas" is allowed on Permanent Grazing sites with a Use Permit (Source: IX.60). In addition, "The exploration for and the removal of oil and gas" is also allowed on Farmlands with a Use Permit (Source: IX.61). Pursuant to approval of the permit application, the proposed project would not conflict with the site zoning. The proposed project would not conflict with any existing land use plans regarding geology, hazards, hydrology, noise, or utilities (refer to Sections 6, 8, 9, 12, and 17). Impacts would be *less than significant.*

Land Use and Planning 10(c) – No Impact. There are no adopted Habitat Conservation Plans, natural Community Conservation Plans or other approved local, regional, or State habitat conservation plans covering the project site (Source IX.62). There would be *no impact*.

11. MINERAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (Source: IX.1)	☐	☐	☒	☐
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? (Source: IX.1)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Mineral Resources 11(a, b) – Less than Significant. Crude oil is a raw material used to manufacture petroleum-based products, such as diesel and gasoline. The project includes drilling and temporary production testing of four exploratory oil wells, which would require a temporary Use Permit from the County of Monterey. In addition, Notice of Intent to Drill a New Well (OG105) must be submitted to DOGGR for each well site. The project may also require a permit to operate from MBARD. All project activities would be permitted and granted access prior to implementation.

If the testing phase determines that oil is available in commercially viable quantities, the wells would be shut-in and a new, comprehensive CUP application would be submitted to the County of Monterey for CEQA analysis of proposed long-term production. To support the Use Permit, additional CEQA review of production would be required. Production of each well would also require a permit to operate from DOGGR. Additionally, the enactment and implementation of Measure Z may also impact, limit or curtail potential future production including the conversion of the exploratory wells to production wells or the drilling of new wells.

The project consists of testing for future mineral resource extraction, and therefore, could improve access to mineral resources on-site (Source: IX.1). The proposed project would not involve a change in land use or otherwise result in the potential loss of availability of a mineral resource. The project would not result in significant impacts regarding the unanticipated loss of availability of resources. Impacts would be *less than significant*.

12. NOISE **Would the project result in:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Source: IX.1)	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (Source: IX.63)	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (Source: IX.1)	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (Source: IX.1)	☐	☐	☒	☐
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 expose people residing or working in the project area to excessive noise levels? (Source: IX.1)	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

The County Code, Chapter 10.60 *Noise Control*, describes the allowances as well as the restrictions related to noise. The County's noise level standards are summarized in Table 12 and Table 13. Table 12 shows the County Code standards for exterior noise. Table 13 shows the County Land Use Element standards, which define "acceptable" noise level for land use compatibility (Source IX. 7, 63).

Table 12 County of Monterey Exterior Noise Level Standards

Zone	Time	Noise Level Standard (L_{eq} dBA)	Maximum Level (dBA)
All	10:00 PM to 7:00 AM	45	65
Within 500 feet of a noise sensitive land use	10:00 PM to 7:00 AM (Monday through Saturday)	Not to exceed "acceptable" levels[1]	-
	All day Sunday		
	All day Holidays		

Notes:
1. See Table 13 for "acceptable" noise levels
Source: IX.2

Table 13 Land Use Compatibility for Noise Environments

Land Use Category	Community Noise Exposure Level			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Low Density, Single-Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential – Multiple Family	50-65	60-70	70-75	70-85
Transient Lodging – Motel, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	65-85
Sports Arenas, Outdoor Spectator Sports	NA	50-75	NA	70-85
Playgrounds, Neighborhood Parks	50-70	NA	67.5-75	72.5-85
Golf Courses, Riding Stable, Water Recreation, Cemeteries	50-70	NA	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	NA

(Source IX.63)
Notes: NA - Not Applicable
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable – New construction or development should be discouraged, and if it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

Vibration. Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas sound is simply carried through the air. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity

of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.

Vibration impacts would be significant if they exceed the following thresholds, which are from the Federal Railroad Administration (FRA):

- 65 VdB where low ambient vibration is essential for interior operations, such as hospitals and recording studios
- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 95 VdB for physical damage to extremely fragile historic buildings
- 100 VdB for physical damage to buildings

In addition to the groundborne vibration thresholds outlined above, the Federal Transit Administration (FTA) outlined human response to different levels of groundborne vibration, and determined that vibration that is 85 VdB is acceptable only if there are an infrequent number of events per day. Construction-related vibration impacts would be less than significant for residential receptors if they occur during the County's normally permitted hours of construction below the threshold of physical damage to buildings and any vibration over 85 VdB would be infrequent with respect to the number of events per day.

Noise 12(a-d) – Less than Significant. The proposed project involves site preparation, drilling, and production testing of four exploratory oil wells. This analysis also assesses impacts associated with potential future long-term production of all four wells.

Generally, the exploration process would involve the recovery of water and oil from the constructed wells and transfer the water and oil to temporary storage tanks. The recovered oil would be transported off-site. Installation of temporary storage tanks and potential future installation of permanent storage tanks for production would generate noise and groundborne vibration (Source: IX.1). In addition, operation of the wells during production testing and potential future long-term production would generate noise and groundborne vibration. Table 14 shows the noise levels that would result from equipment typically associated with drilling activity and pad preparation.

Table 14 Noise Ranges of Typical Construction Equipment

Construction Equipment	Typical Level (dBA) 50 feet	Typical Level (dBA) 500 feet	Typical Level (dBA) 2,000 feet
Mobile Equipment			
Backhoe	80	60	48
Compactor	82	62	50
Grader	85	65	53
Loader	85	65	53
Paver	89	69	57
Scraper	89	69	57
Truck	88	68	56
Stationary Equipment			
Augur Drill Rig	85	65	53
Concrete Mixer	85	65	53
Concrete Pump	82	62	50
Crane	83	63	51
Generator	81	61	49
Pump	76	56	44
Rock Drill	85	65	53

Notes: Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.
Noise levels assume a noise attenuation rate of 6 dBA per doubling of distance.
Source: IX.69

The noise sensitive receptors closest to the project site include:

- A residence located approximately 0.6 mile southwest of well site HV #1
- A residence located approximately 0.9 mile southwest of well site HV #2
- A residence located approximately 1.0 mile northeast of well site HV #4
- A residence located approximately 1.4 miles west-northwest of well site HV #3

Noise levels attenuate at a rate of approximately 6 dBA per doubling of distance from point sources, such as construction and drilling equipment shown in Table 14. As shown in Table 14, at the distances to nearby receptors, noise and vibration associated with all phases of the proposed project would not exceed approximately 57 dBA. These estimates assume direct line-of sight, and do not account for additional attenuation that would result from variations in topography and rough ground surface cover (e.g., dirt, rocks, vegetation). Therefore, noise levels would be expected to be even lower than shown in Table 14 at the nearest noise-sensitive receptors. The anticipated noise levels at the nearest noise-sensitive receptors would be within or below the County's "acceptable" noise levels for residential development shown in Table 13. Therefore, this impact would be *less than significant.*

Noise 12(e, f) – No Impact. The project site is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. The nearest airstrip is located approximately 12 miles north of the site at San Ardo Field (Source: IX.1). The Camp Roberts Army Heliport is located approximately 4.6 miles west of exploration well site HV #3. Due to the distance of the project site to these facilities and because the site would not introduce any noise-sensitive uses, there would be *no impact*

13. POPULATION AND HOUSING **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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)? (Source: IX.1)	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (Source: IX.1)	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Population and Housing 13(a-c) – No Impact. See Section IV.A.

14. PUBLIC SERVICES Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
a) Fire protection? (Source: IX.64)	☐	☐	☒	☐
b) Police protection? (Source: IX.65)	☐	☐	☒	☐
c) Schools? (Source: IX.1)	☐	☐	☐	☒
d) Parks? (Source: IX.1)	☐	☐	☐	☒
e) Other public facilities? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Public Services 14(a) – Less than Significant. The project site is currently served by CAL FIRE South County. The closest fire station to the project is the CAL-FIRE Bradley Station located at 65789 Bradley Road, approximately four miles northwest of the project site (Source: IX.64).

The project would not result in significant additional demand for fire protection services since it does not include any habitable structures. During the site preparation phase of the project, approximately two to three employees would be on-site at each well. During production testing, approximately one employee would be on-site at each well. If implemented, the production phase would require approximately four to six employees at each site. The project would not result in the provision of or need for new or physically altered fire protection facilities. Impacts related to fire protection service would be *less than significant*.

Public Services 14(b) – Less than Significant. The Monterey County Sheriff's Office provides police services to the unincorporated portions of the County. These services include patrol, crime prevention, and crime investigation provided out of stations in Monterey, Salinas, and King City. The nearest station to the project site is the South County station, located at 250 Franciscan Way in King City, approximately 30 miles north of the site (Source: IX.65).

The project would not result in significant additional demand for police protection services since the project does not include new residential or commercial development. The project would not result in the need for new or physically altered police protection facilities. Impacts related to police protection services would be *less than significant*.

Public Services 14(c-e) – No Impact. The project would not increase the number of residents in the County since the project does not include residential units or a substantial new source of permanent jobs to induce population growth (Source: IX.1). The demand for schools, parks and recreation, and other public facilities are driven by population increases. Because the project would not increase the population, the project would have *no impact*.

15. RECREATION **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	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? (Source: IX.1)	☐	☐	☐	☒
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? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Recreation 15(a, b) – No Impact. See Section IV.A.

16. TRANSPORTATION/TRAFFIC **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (Source: Source: IX.66, 67)	☐	☐	☒	☐
b) Conflict with the goals, objectives, and policies of the 2010 Regional Transportation Plan for Monterey County, including, but not limited to level of service standards and travel demand measures, or other standards established by the Transportation Agency for Monterey County (TAMC) for designated roads or highways? (Source: IX.1)	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks? (Source: IX.1)	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Source: IX.1)	☐	☐	☒	☐
e) Result in inadequate emergency access? (Source: IX.1)	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (Source: IX.1)	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

Transportation 16(a, b) – Less than Significant. The proposed project would result in worker trips and heavy truck trips to and from the project site. Regional access to the project area is provided by U.S Highway 101 and Jolon Road. Exploration well sites HV #1 and HV #4 would be accessed via an existing driveway on the southwest side of Lake Nacimiento Drive, approximately 600 feet southeast of Jolon Road. Access to exploration well site HV #1 may alternatively be provided via an existing dirt driveway off Jolon Road, depending on the season. Local access to exploration well sites HV #2 and HV #3 would be provided via an existing driveway on the east side of Nacimiento Lake Drive, approximately 2.5 miles south of Jolon Road. Exploration well sites HV #1, #3, and #4 would be accessed internally using existing

agriculture or ranch access roads. A new dirt road would be constructed to access exploration well site HV #2. This dirt road would be approximately 0.2 mile long, and would connect to an existing driveway and farm access road off Nacimiento Lake Drive. The new road would be bladed and graded. No surface would be added to the new driveway.

Table 15 shows the potential trip generation associated with the project phases for each of the four well sites, including potential long-term production. The table below assumes that site preparation and drilling would occur sequentially, such that the four sites would not be prepared or drilled simultaneously, since this is what the applicant proposes. For the remaining phases, it is conservatively assumed that production testing and potential future long-term production could occur at all four sites simultaneously. Vehicle trip assumptions are based on the applicant-provided Construction Management & Operations Plan (Source: IX.66).

Table 15 Maximum Daily Trip Generation

Phase	One-Way Trips (Per Day)
Proposed Project	
Site Preparation[1]	
Heavy Trucks	8
Workers	6
Phase Total	**14**
Drilling[2]	
Heavy Trucks	10
Water Delivery Trucks	2[6]
Workers	18
Phase Total	
Production Testing[3]	
Heavy Trucks	18
Workers	8
Phase Total	26
Potential Long-Term Production	
Set-Up[4]	
Heavy Trucks	26
Workers	48
Phase Total	74
Operation[5]	
Heavy Trucks	18
Workers	8
Phase Total	26

1. *Site preparation would last approximately four days and would require up to three workers on each site per day. A maximum of three heavy duty trucks would access each site during mobilization and demobilization. One truck for pumping of the portable restroom facilities at all for sites is also assumed.*
2. *Drilling would last for approximately 19 days and would require up to four workers on each site per day. A maximum of four heavy duty trucks would access each site during mobilization and demobilization. Fewer trucks would access the site during normal drilling operations. One truck for pumping of the portable restroom facilities at all for sites is also assumed.*
3. *Production testing would occur for up to 18 months. One worker would travel to each site daily to monitor operations; this analysis conservatively assumes that each well would have its own worker. Vacuum trucks would recover the oil and produced water and transport from each site approximately two times per day (one truck for oil and one truck for produced water). One truck for pumping of the portable restroom facilities at all for sites is also assumed.*
4. *Installation and set-up of permanent tanks to support production would occur over approximately six months and involve up to six workers. It assumed that a maximum of three heavy duty trucks would access each site each day during this phase. One truck for pumping of the portable restroom facilities at all for sites is also assumed.*
5. *During operation of future production, it is assumed that up to two trucks per day for each well would be required to transport oil. One worker would travel to each site to monitor operations; this analysis conservatively assumes that each well would have its own monitor. One truck for pumping of the portable restroom facilities at all for sites is also assumed.*
6. *Water trucks from the property owner would deliver water to the exploratory well sites at most two times during the drilling phase. Therefore, water delivery truck trips are not counted in the daily total because they would not impact traffic in the project vicinity.*

Source: IX.66

As noted previously, the applicant does not currently proposed long-term production; nevertheless, the impacts of long-term production are analyzed herein. As shown in Table 15, the maximum daily trips as a result of the project would occur during set-up of potential long-term production, with 72 total daily trips. This would occur over approximately six months. Therefore, this maximum trip amount would be a temporary condition. During the longest phases of the project – production testing (up to 18 months) and potential future operation (permanent) – there would be a maximum of 26 daily one-way trips, as shown in Table 15.

As discussed above, the trucks and passenger vehicles would access the site regionally from U.S. Highway 101, which has approximately 18,100 average daily trips near Jolon Road (Source:

IX.67). The additional 72 daily trips would not alter levels of service on this highway. Local access to the sites would be provided by Jolon Road and Lake Nacimiento Drive, neither of which is heavily traveled (Source: IX.19). The additional trips resulting from the project would not cause either of these roadways to operate unacceptably. Therefore, the estimated increase in trips would not be substantial and would not result in congestion or create a substantial impact on area roadways. Impacts would be *less than significant*.

Transportation 16(c) – No Impact. As discussed in Section VI.8, *Hazards and Hazardous Materials*, and Section VI.12, *Noise*, the project site is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip (Source: IX.1). The proposed project would not cause any change to existing air traffic patterns. There would be *no impact*.

Transportation 16(d) – Less than Significant. Access to the four well sites would be provided by existing roadways, driveways, and agricultural access roads, with the exception of exploration well site HV #2, for which a new access road would be constructed. The trucks that would access the site would not affect the use of the road by agricultural type equipment or other vehicles (Source: IX.1). No design features associated with the project that would affect the existing roadways and impacts would be *less than significant*.

Transportation 16(e) – No Impact. As discussed above, the project would add not a significant number of vehicle trips to existing roads. The project would not restrict, block, or hinder any existing routes, and would not disrupt or create inadequate emergency access (Source: IX.1). There would be *no impact*.

Transportation 16(f) – No Impact. The proposed project would not result in any changes to alternative transportation, bicycle, or pedestrian facilities (Source: IX.1). The project is located in unincorporated Monterey County and would not conflict with any public transit, bikeways, or pedestrian facilities. There would be *no impact*.

17. Tribal Cultural Resources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a 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:				
a) 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	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe.	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Tribal cultural resources are defined in Public Resources Code 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1

Tribal Cultural Resources 17(a, b) – Less than Significant. Under Assembly Bill 52 (AB 52), Native American Tribes are provided with the opportunity to comment or request consultation on new projects/developments as part of the CEQA process. As of April 12, 2017, the County of Monterey has not received any tribal cultural resources letters of consultation, or any notifications regarding impacts to tribal cultural resources. Since there have been no responses from tribes regarding potential cultural resources, there are no known sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe on the project site. However, there is always potential to uncover buried archaeological resources during ground disturbing activities, which could potentially be considered tribal cultural resources. A standard County COA would require that work stop if archaeological resources are encountered, and would further require assessment and mitigation of the resource. Impacts would be *less than significant.*

18. UTILITIES AND SERVICE SYSTEMS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (Source: IX.1)	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Source: IX.1)	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Source: IX.1)	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (Source: IX.1)	☐	☐	☒	☐
e) 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? (Source: IX.1)	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (Source: IX.68)	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste? (Source: IX.68)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Utilities and Service Systems 18(a, b, e) – Less than Significant. The project would not generate municipal wastewater, and therefore would not require traditional wastewater treatment (Source: IX.1). However, the production testing of four wells would recover fluid, including oil and water. This "gross fluid" would be pumped into the temporary (or permanent, during the potential future production phase) storage tanks on-site. Recovered water would be picked up by a licensed contractor and taken to either an existing off-site injection well or existing treatment facility for disposal. The contractor would treat the removed wastewater off-site before taking it to the well or facility, both of which would be regulated for water quality. If the water is disposed of at a wastewater disposal facility, the facility would be subject to Waste Discharge Requirements, NPDES permit requirements, and/or Monitoring and Reporting Programs as required by the Central Coast RWQCB. Impacts would be *less than significant*.

Utilities and Service Systems 18(c) – No Impact. As described in Section VI.9, *Hydrology and Water Quality*, approximately 3.3 acres would be converted to impervious surfaces as a result of the project. This would represent less than one percent of the total acreage of the property (1,482 acres). As such, stormwater would continue to percolate and infiltrate into the soil and the project would not substantially alter drainage patterns (Source: IX.1). As a result, the project would not require the construction of new storm water drainage facilities. There would be *no impact.*

Utilities and Service Systems 18(d) – Less than Significant. A 500-gallon fresh water tank would be located at each of the proposed well sites (Source: IX.1). The water would be used by employees on-site for hand-washing and is also required for fire safety. This water would be delivered from off-site and would be topped off once or twice during exploration and infrequently during production. No additional water demand would be generated by the proposed project and the approximately 2,000 gallons of water demanded would not require new or expanded entitlements. Impacts would be *less than significant*.

Utilities and Service Systems 18(f, g) – Less than Significant. Monterey County is served by two active solid waste landfills, Johnson Canyon Sanitary Landfill, which is located approximately 55 miles north of the project site at 31400 Johnson Canyon Road in Gonzales, and Monterey Peninsula Landfill, which is located approximately 80 miles north of the project site at 14201 Del Monte Boulevard in Marina,. Both facilities may serve the project site. Johnson Canyon Sanitary Landfill has an estimated 7 million cubic yards of remaining capacity (Source: IX.68). Monterey Peninsula Landfill has an estimated 48 million cubic yard of remaining capacity and is expected to reach full capacity in 2161 (Source IX.68).

The project would not introduce any new residents. Solid waste generated by the proposed project would be limited to food and other waste from on-site employees and minimal excess materials from installation of the pumping unit and tanks. Employees would be on-site and times on-site vary between the different project stages. The temporary employees that would serve the site would generate insubstantial amounts of waste. The two landfills have remaining capacities that ensure that the proposed project would not have a significant impact on either landfill. Impacts would be less than significant.

As discussed in Section VI.8, *Hazards and Hazardous Materials*, all hazardous waste would be transported by truck and disposed of at the Kettleman Hills Waste Management Landfill. This landfill is located approximately 47 miles northeast of the project site. The landfill received approval in 2014 for a permit modification which increased the landfill's capacity by approximately five million cubic yards (Source: IX.68). The landfill has sufficient capacity for the project, and impacts would be *less than significant*.

VII. MANDATORY FINDINGS OF SIGNIFICANCE

NOTE: If there are significant environmental impacts which cannot be mitigated and no feasible project alternatives are available, then complete the mandatory findings of significance and attach to this initial study as an appendix. This is the first step for starting the environmental impact report (EIR) process.

Does the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have the potential to 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, 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? (Source:)	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? (Source:) ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (Source:)	☐	☐	☒	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (Source:)	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

Mandatory Findings of Significance VII(a) – Less than Significant with Mitigation Incorporated. Based upon the analysis throughout this Initial Study, the proposed project would not have the potential to 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, 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. Compliance with a standard County COA would ensure that impacts to cultural resources remain less than significant because it would require treatment, evaluation, and mitigation for previously undiscovered cultural resources. Mitigation Measures BIO-1 through BIO-11 would reduce impacts to biological resources by requiring worker environmental awareness; pre-disturbance surveys; work area delineation and/or flagging to protect biological resources outside of the work area; and species-specific avoidance and minimization measures. All potential impact areas are deemed less than significant with

mitigation measures set forth in this Initial Study. Impacts would be *less than significant with mitigation incorporated.*

Mandatory Findings of Significance VII (b) – Less than Significant. The project would not contribute cumulative impacts to air quality degradation, as described in Section VI.3, *Air Quality*. The project would not result in significant impacts related to noise, transportation or traffic, nor would it contribute to cumulative groundwater depletion in the region because the project would use minimal water. The project would have minimal noise impacts because noise sensitive receptors are over half a mile from the well sites and there are no other proposed noise producing land uses in the project vicinity that would cumulatively contribute to noise. The project would add minimal vehicles to area roadways and in combination with other nearby proposed projects would not substantially increase roadway traffic. Therefore, site preparation, drilling, and production testing of the four well sites would not contribute to significant cumulative impacts.

Subject to Measure Z, as discussed below, reasonably foreseeable long-term production of the four proposed wells may occur as a result of this project if oil is discovered during the production testing phase. Conversion to a production well would require a Use Permit and further environmental review as appropriate. For purposes of full disclosure, this analysis considers the reasonably foreseeable cumulative impacts of long-term well production. If all four wells are produced simultaneously, a total of 600 barrels of oil per day could be produced. This would increase the number of truck and worker trips to each well site. However, as discussed in Section VI.16, *Transportation/Traffic,* a maximum of 74 one-way trips would be generated per day during set-up and 26 one-way trips would be generated per day during operation. This amount of traffic, in combination with cumulative development in the region and associated traffic generation, would not result in cumulatively considerable impacts to the local circulation system. The noise from production would not be cumulatively considerable as the well sites are isolated from other noise producing land uses. There are no other projects planned in the vicinity that would increase noise for nearby sensitive receptors in combination with production. The applicant has indicated that long-term production of the four wells would not include well stimulation, including fracking, maintaining water quality in the region. Each well would be equipped with well casing to protect surface and underground waters. In addition, DOGGR's regulations require a cement barrier, which meets DOGGR's regulations, be placed between the well and casing to further protect water quality. Water use at the well sites during production would be stored onsite in enclosed steel tanks for transportation off of the property. Therefore, water use at the well sites would be minimal and would not have cumulative impacts.

If the wells produce large quantities of oil during production, it is possible that additional wells could be drilled in the vicinity. However, the probability of such cumulative oil production is speculative at this time.

The citizen sponsored initiative, Measure Z, which amends portions of the County's General Plan and Local Coastal Program, was passed in November 2016. Measure Z is currently in litigation, but if upheld, Measure Z will: (1) prohibit the use of land within the County's unincorporated areas for hydraulic fracturing treatments ("fracking"), acid well stimulation

treatments, and other well stimulation treatments; (2) prohibit new and phase out existing land uses that utilize oil and gas wastewater injection and impoundment; and (3) prohibit the drilling of new oil and gas wells in the County's unincorporated areas. Measure Z's provisions may impact, limit, or curtail the project applicant's potential production at the exploratory test well sites, or other regional sites. Unless the applicant applies and qualifies for an exemption from the provisions of Measure Z, the applicant's potential for production could be significantly impacted, limited or entirely prohibited.

The incremental air quality, noise, transportation/traffic, and utilities impacts of the project, when considered in combination with the effects of past projects and probable future projects in the project vicinity, would result in *less than significant* impacts. Project impacts related to several issue areas, including geology and hazards and hazardous materials, would be site-specific and would result in no cumulative impacts.

Mandatory Findings of Significance VII(c) – Less than Significant. The project itself would not create environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. Compliance with all applicable federal and state regulations, such as wastewater discharge requirements, and hazardous materials compliance would reduce potential adverse effects to human beings to a less than significant level. If a spill occurs during exploration, the project's Emergency Spill Prevention Plan would be implemented to reduce impacts from the spill. The Spill Prevention Plan includes an evaluation plan as well as the procedures for spill response and cleanup. Impacts related to all issue areas that would impact humans would be *less than significant*.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

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IX. Responses to Comments on the Draft IS-MND

This section includes the comments received during circulation of the Draft Initial Study and Mitigated Negative Declaration (IS-MND) prepared for Porter Estates Company Bradley Ranch Inc. (Trio Petroleum) Project and responses to those comments.

The IS-MND was circulated for a 30-day public review period that began on August 8, 2017, and concluded on September 8, 2017. The County received one comment letter on the Draft IS-MND from the Monterey Bay Air District (MBARD). Under the California Environmental Quality Act (CEQA) there is no requirement to prepare response to comments for a Mitigated Negative Declaration (CEQA Guidelines § 15074(b).) Even in the context of an Environmental Impact Report, response to comments "…need only respond to significant environmental issues…" (CEQA Guidelines § 15204(a)). Nevertheless, the County herein addresses the issues raised in the comment letter submitted on the Draft IS-MND.

The comment letter and response follows. The comment letter has been numbered sequentially and each separate issue raised by the commenter has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates that the response is for the first issue raised in comment Letter 1). Corrections or additional text discussed in the responses to comments are also shown in the text of the Final IS-MND in ~~strikethrough~~ (for deleted text) and <u>underline</u> (for added text) format.

PLACEHOLDER Comment Letter

Letter 1

COMMENTER: Hanna Muegge, Air Quality Planner, Monterey Bay Air Resources District

DATE: September 8, 2017

Response 1.1

The commenter requests that the updated Air Quality Management Plan (AQMP) be referred to as the 2012-2015 AQMP instead of the 2016 AQMP. Reference to the AQMP has been changed to the 2012-2015 AQMP throughout the IS-MND.

Response 1.2

The commenter requests consultation with the Air District in regards to portable engines. Portable engines over 50 horsepower and portable equipment units that emit particulate matter greater than 2.0 pounds per day cannot be operated in the Air District without either a Permit to Operate or state registration under the Portable Equipment Registration Program (PERP). Therefore, under the Portable Diesel Engine Airborne Toxic Control Measure adopted by the Air Resources Board in 2004 any portable equipment used as part of the project should either register under PERP or with the Air District and certified to meet all federal or California standards for newly manufactured engines. The following mitigation measure has been added to page 37 of the final IS-MND to ensure consultation with MBARD:

> **AQ-2 Portable Engine Consultation**. The project contractor shall consult with the Monterey Bay Air Resources District Compliance Division regarding any portable engines over 50 horsepower and portable equipment units that emit particulate matter greater than 2.0 pounds per day used during project construction.
>
> **Timing and Monitoring**: Consultation with the Monterey Air Resources District shall occur prior to project construction.

Response 1.3

The commenter requests that project construction follow the Air District's construction Best Management Practices (BMPs) to minimize off-site fugitive dust and maintain compliance with Air District Rule 400 (Visible Emissions) and 402 (Nuisance). The following mitigation measure has been added to page 37 of the final IS-MND:

> **AQ-3 Construction Best Management Practices**. Construction at all four well sites shall implement the following practices when appropriate:
>
> - Prohibit all grading activities during periods of high wind (over 15 miles per hour)

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, or hydro-seed area
- Maintain at least two feet of freeboard in haul trucks
- Cover all trucks hauling dirt, sand, or loose material
- Plant vegetative ground cover in disturbed areas as soon as possible
- Cover inactive storage piles
- Install wheel washers at the entrance to construction sites for all exiting trucks
- Post a publically visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Air District shall be visible to ensure compliance with Rule 402 (Nuisance)

Timing and Monitoring: Construction Best Management Practices shall be applied during the site preparation and production testing phases. The project contractor shall be responsible for ensuring that the Best Management Practices are being implemented.

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