air pollution control district
SANTA BARBARA COUNTY

DRAFT

PART 70 OPERATING PERMIT 16033

ORCUTT HILL AND CASMALIA OIL FIELDS STATIONARY SOURCE

CAREAGA LEASE - NON THERMAL (Part I)

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

OPERATOR

Newbridge Resources LLC

OWNERSHIP

Newbridge Acquisition Holding, LLC (NAH)

Santa Barbara County
Air Pollution Control District

(District Permit to Operate)
(Part 70 Operating Permit)

February 2025

PART I

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ABBREVIATIONS/ACRONYMS

AP-42	USEPA's *Compilation of Emission Factors*
District	Santa Barbara County Air Pollution Control District
API	American Petroleum Institute
ASTM	American Society for Testing Materials
BACT	Best Available Control Technology
bpd	barrels per day (1 barrel = 42 gallons)
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring
dscf	dry standard cubic foot
EU	emission unit
gal	gallon
gr	grain
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H_2S	hydrogen sulfide
I&M	inspection & maintenance
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LACT	Lease Automatic Custody Transfer
LPG	liquid petroleum gas
M	thousand
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NEI	net emissions increase
NG	natural gas
NSPS	New Source Performance Standards
O_2	oxygen
OCS	outer continental shelf
PM	particulate matter
PM_{10}	particulate matter less than 10 µm in size
$PM_{2.5}$	particulate matter less than 2.5 µm in size
ppm (vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
RVP	Reid vapor pressure
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC	Total hydrocarbons
tpy, TPY	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VRS	vapor recovery system

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. Santa Barbara County is designated as a non-attainment area for the state Ozone and PM_{10} ambient air quality standards.

Part 70 Permitting: This permit is being issued in accordance with the requirements of the District's Part 70 operating permit program. Following the purchase of the Careaga Lease by Newbridge Acquisition Holding, LLC (NAH), the Careaga Lease became part of Orcutt Hill Stationary Source and subject the requirements of the Part 70 operating permit program. This permit is the initial issuance of the Part 70 permit and may include additional applicable requirements and associated compliance assurance conditions. This permit consists of two parts: Part I addresses operations pertaining to the Monterey formation and Part II addresses operations pertaining to the Diatomite formation, where steam injection is used as a secondary recovery mechanism. Operations at both the Monterey and Diatomite formations are currently permitted under PTO 8896-R12 and PTO 13257- R4. This PT-70 permit supersedes both of these permits.

The Careaga Lease is part of the Orcutt Hill and Casmalia Oil Fields Stationary Source which is major source for VOC[1], NO_X and CO emissions. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit (Part I and Part II) are enforceable by the District, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "District-only" enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this Part 70 permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Second, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

This permit incorporates greenhouse gas emission calculations for the stationary source. On January 20, 2011, the District revised Rule 1301 to include greenhouse gases (GHGs) that are "subject to regulation" in the definition of "Regulated Air Pollutants". District Part 70 operating permits incorporate the revised definition.

[1] VOC as defined in Regulation XIII has the same meaning as reactive organic compounds as defined in Rule 102. The term ROC shall be used throughout the remainder of this document, but where used in the context of the Part 70 regulation, the reader shall interpret the term as VOC.

1.2 Facility Overview

1.2.1 General Overview: The District issued the initial operating permits for this facility to Shell Oil Company on October 2, 1975. Several additional permitting actions for wastewater and test tanks occurred in the early 1980s. The reevaluation of May 4, 1990 consolidated existing permits into PTO 3554.

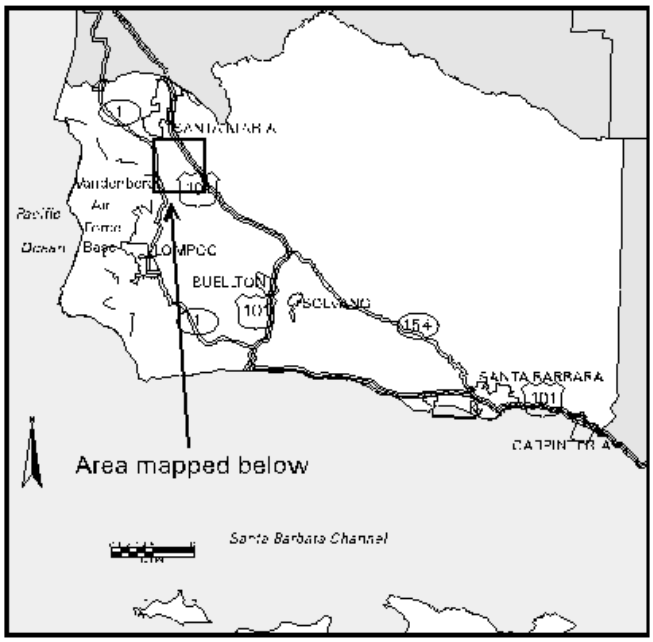
City Santa Barbara Holdings, Inc. purchased the Careaga Lease from the Shell Oil Company effective August 1, 1992. On May 23, 1993, the company was placed in Chapter 11 involuntary bankruptcy. On March 23, 1994, the Trustee of City Santa Barbara Holdings, Inc. appointed Gitte-Ten, Inc. (GTI) the interim manager as requested by the Creditor's Committee. The court approved City Santa Barbara Holdings, Inc.'s reorganization plan on November 11, 1994. GTI became the permanent manager on November 14, 1994. On April 4, 1995, City Santa Barbara Holdings, Inc. changed its name to Phoenix Energy, Inc. GTI transferred lease management to Careaga Hydrocarbons, Inc. on March 31, 1996. On April 18, 2007 transfer of ownership was made from Phoenix Energy, Inc. to Phoenix Energy, LLC. On May 5, 2012 transfer of owner and operator was finalized from Phoenix Energy, LLC to Santa Maria Energy. An owner and operator transfer from Santa Maria Energy to Newbridge Resources occurred in May 2022.

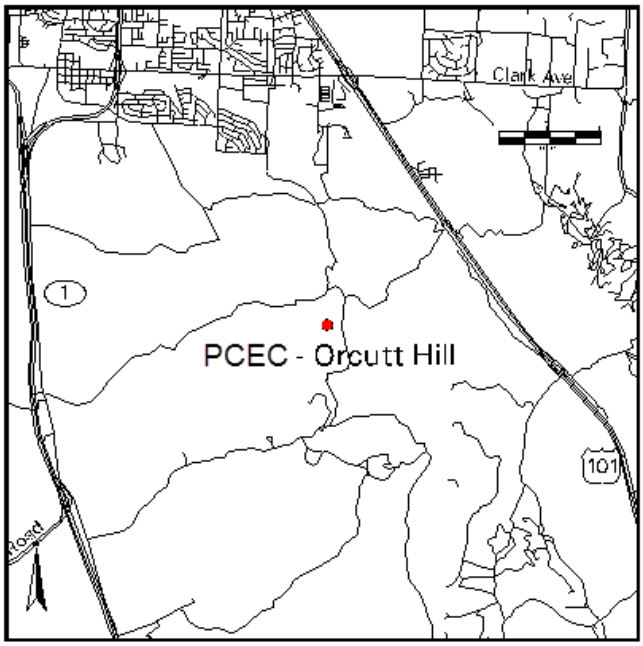
For District regulatory purposes, the facility is located in the Northern Zone of Santa Barbara County[2]. Figure 1.1 shows the relative location of the facility within the county.

[2] District Rule 102, Definition: "Northern Zone"

ORCUTT HILL AND CASMALIA OIL FIELDS STATIONARY SOURCE

Figure 1.1 Location Map for the Careaga Lease





The *Orcutt Hill and Casmalia Oil Fields Stationary Source* (SSID 2667), which was originally developed in the 1920s by Union Oil Company, consists of the facilities listed below. The Careaga Lease was purchased in March 2022 and the Casmalia Oil Fields (N.R. Bonetti, Escolle, Escolle (Amrich), Arellanes, Morganti, Casmalia ICEs, Musico and Righetti) were purchased by PCEC in June 2023. As a result, these leases became incorporated into the original PCEC Orcutt Hill Stationary Source which was renamed the Orcutt Hill and Casmalia Oil Fields Stationary Source.

- California Coast Lease (FID 3206)
- Fox Lease (FID 3313)
- Dome Lease (FID 3314)
- Folsom Lease (FID 3316)
- Graciosa Lease (FID 3318)
- Hartnell Lease (FID 3319)
- Hobbs Lease (FID 3320)
- Newlove Lease (FID 3321)
- Pinal Lease (FID 3322)
- Rice Ranch Lease (FID 3323)
- Squires Lease (FID 3324)
- Getty-Hobbs Lease (FID 3495)
- Orcutt Hill Compressor Plant (FID 4104)
- Orcutt Hill Internal Combustion Engines (FID 4214)
- Orcutt Hill Steam Generators (FID 10482)
- Orcutt Hill Field (MVFF) (FID 1904)
- Careaga Lease (FID 1517)
- Casmalia ICEs (FID 4216)
- N.R. Bonetti Lease (FID 4501)
- Escolle Lease (Amrich) (FID 11593)
- Escolle Lease (FID 3315)
- Arellanes Lease (FID 3212)
- Morganti Lease (FID 3303)
- Musico Lease (FID 3304)
- Righetti Lease (FID 3948)

The Careaga Lease consists of two separate and distinct oil and gas separation facilities; hydrocarbons produced from the Monterey formation are processed at the Monterey formation tank battery and hydrocarbons produced from the Diatomite formation are processed at the Diatomite tank battery. Operations at the Diatomite facility include steam injection whereas steam injection is not utilized at the Monterey facility. With the exception of some shared equipment, the equipment at each facility are separate and used exclusively at each particular facility.

The following oil and gas processing equipment are used exclusively at the Monterey tank battery. Operation of, and emissions associated with, this equipment is addressed below in Part I of this permit:

- Storage Tanks
- Oil/Water/Gas Separation Systems
- Monterey Produced Gas Hydrogen Sulfide Treatment Vessels

- Compressors/Pumps
- Fugitive Components

The following oil and gas processing equipment is shared by both the Monterey formation processing operations and the Diatomite formation processing operations. With the exception of the thermal oxidizer and Crude Loading Rack, this shared equipment has been included in Part I of this permit. The Crude Loading Rack throughputs and requirements for Monterrey crude loading are listed in Part 1 of the permit. The Crude Loading Rack throughputs and requirements for the Diatomite crude loading is listed in Part 2 of the permit.

- Thermal Oxidizer
- Open-pipe Flare
- Emergency Backup Diesel Generator
- Crude Oil Loading Rack
- Tank Vapor Recovery System
- Various Fugitive Components

Oil, water and gas are produced from the wells on the Careaga Lease Monterey formation by conventional means, i.e., downhole well pumps. Electric motors power downhole well pumps to augment well production from these wells. Production from these wells is piped to the Monterey tank battery to process Monterey formation crude oil and gas. Oil is metered via a shared LACT unit and trucked from the facility via a shared loading rack. Produced water is reinjected into the oil formation via water disposal wells. Well casinghead gas and produced gas is routed to the Monterey Gas Plant for processing. The tanks and loading rack are connected to a vapor recovery system.

1.2.2 Facility New Source Review Overview: The following table provides a description of equipment installations at this facility associated with the Monterey formation that were subject to New Source Review requirements. The corresponding permits associated with these installations are also provided.

Table 1.1
New Source Review Overview

Permit Number	Issuance Date	Permitted Modification
ATC 9536	03/21/1996	Install VRS
ATC/PTO 12310-01	03/18/2013	Install Three Portable Well Test Systems (shared)
ATC 12627	06/10/2008	Install 1,000 bbl Gauge Tank
ATC/PTO 13257	08/28/2009	Install Emergency Backup Generator
ATC 13942	10/26/2012	Upgrade Phase I VRS
ATC 13943	10/26/2012	Upgrade Phase II VRS

1.3 Emission Sources

Emissions from equipment associated with the Monterey formation at the Careaga Lease consist of an open-pipe flare, emergency backup diesel generator oil and gas wells and their associated cellars, oil/water/gas separation equipment, tanks and fugitive emission components, such as process-line valves and flanges. Section 4 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted

emission units.

The emission sources specific to the Monterey tank battery include:

- Seventy-three (73) oil and gas wells and twenty-one (21) well cellars
- One (1) wash tank
- One (1) wastewater tank
- One (1) gauge tank
- Two (2) crude storage tanks
- Various Separators

Equipment shared between the Monterey tank battery and the Diatomite tank battery include:

- Thermal Oxidizer
- Open-Pipe Flare
- Emergency Backup Diesel Generator
- Crude Oil Loading Rack
- LACT Unit
- Vapor Recovery System

Specifics for the shared equipment (Section 4, Section 5 engineering analysis, etc.) is included in the Part I of this permit. The full permitted equipment list for all equipment at Careaga Lease is provided in Section 10.4 of Part II.

1.4 Emission Control Overview

Air quality emission controls are utilized at the Careaga Lease (Monterey) for a number of emission units. The emission controls employed at the facility include:

→ 23.375 MMBtu/hr open pipe flare subject to the requirements of Rule 359.

→ A Fugitive Hydrocarbon Inspection & Maintenance program for detecting and repairing leaks of hydrocarbons from piping components, i.e., valves, flanges and seals, consistent with the requirements of the District Rule 331 to reduce ROC emissions by approximately 80-percent.

→ A vapor recovery/gas collection (VRGC) system to collect reactive organic vapors from the gas/liquid separators and the tanks.

→ A program to keep well cellars and emergency pits pumped out consistent with the requirements of District Rule 344.

→ The storage tanks and loading rack are connected to a vapor recovery system. A 95-percent control efficiency is applied for the use of vapor recovery.

→ A hydrogen sulfide removal system reduces the total sulfur of the gas associated with the Monterey formation.

1.5 Offsets/Emission Reduction Credit Overview

The Orcutt Hill and Casmalia Oil Fields Stationary Source triggers offsets for NO_x and ROC emissions however emission offsets are not currently required for the Careaga Lease as this initial Pt-70 permit does not authorize an increase in permitted emissions or the installation and

operation of new equipment. Future applications to install new equipment or increase emissions will be evaluated for offset.

1.6 Part 70 Operating Permit Overview

1.6.1 Federally-enforceable Requirements: All federally-enforceable requirements are listed in 40 CFR Part 70.2 (*Definitions*) under "applicable requirements". These include all SIP-approved District Rules, all conditions in the District-issued Authority to Construct permits, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (*see Tables 3.1 and 3.2 for a list of federally-enforceable requirements)*

1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units.

1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 70.2. The federal PTE does include all emissions from any insignificant emissions units. None of the equipment at this facility is subject to a federal NSPS/NESHAP requirement, nor is it included in the 29-category list, therefore the federal PTE does not include fugitive emissions. (*See Section 5.4 for the federal PTE for this source)*

1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the District. Permit shields cannot be indiscriminately granted with respect to all federal requirements. The permittee has not made a request for a permit shield.

1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. The permittee made no request for permitted alternative operating scenarios.

1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A "responsible official" of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (*see Section 1.6.9 below)*

1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.

1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability.

1.6.9 Responsible Official: The designated responsible official and his mailing address is:

Phil Brown - Chief Operations Officer
Newbridge Resources, LLC
1555 Orcutt Hill Rd. Orcutt, CA 93455

2.0 Process Description

2.1 Process Summary

2.1.1 Overview: Oil, water, and gas are produced from seventy-three wells associated with the Monterey formation on the Careaga Lease. The wells are produced using downhole well pumps powered by electric motors. Twenty-one of the wells are equipped with well cellars of varying sizes.

2.1.2 Gas, Oil, and Water Separation: The produced oil, water and gas are piped to a central tank battery dedicated to Monterey production only, where it passes through gas/liquid separators. The liquids from the separators are sent to the wash tanks where oil and water are separated. Oil is piped to the crude tanks and the water is sent to the wastewater tanks. Well casinghead gases are collected from the Monterey wells and sent to the Monterey Gas Plant. The gas is processed and treated for sulfur removal and sent to the fuel gas blending skid, or sent directly to the steam generator for use as fuel gas or to the sales gas line. Excess gas is combusted in the thermal oxidizer. During periods the thermal oxidizer is not operational the excess gas is flared in an open-pipe flare. The thermal oxidizer and flare are shared by both tank batteries.

2.1.3 Vapor Recovery: The Tank Vapor Recovery System (VRS) is equipped with compressor driven electric motors and is assumed to have a 95-percent control efficiency. Vapors from both the Monterey and Diatomite tank batteries are collected and processed by the VRS. The vapors are discharged from the VRS and sent to the Diatomite Gas Plant.

2.1.4 Oil and Gas Metering and Shipping: Oil from the crude storage tank is metered through a LACT metering system and is shipped from the lease via pipeline. When the pipeline is unavailable, crude oil is trucked from the facility.

2.1.5 Wastewater Disposal: The water separated in the wash tank is sent to the wastewater tanks. The wastewater is then reinjected into the producing formation.

2.2 Support Systems

2.2.1 One diesel-fired, certified Tier 3 IC engine drives an emergency generator to service equipment at the facility. This unit is exempt from Rule 333 per Rule 333.B.1.d.

2.3 Maintenance/Degreasing Activities

2.3.1 Paints and Coatings: Intermittent surface coating operations are conducted throughout the facility for occasional structural and equipment maintenance needs, including architectural coating.

Normally only touch-up and equipment labeling or tagging is performed. All architectural coatings used are in compliance with District Rule 323, as verified through the rule-required recordkeeping.

2.3.2 Solvent Usage: Solvents not used for surface coating thinning may be used for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

2.4 Planned Process Turnarounds

Maintenance of critical components is carried out according to the requirements of Rule 331 (*Fugitive Emissions Inspection and Maintenance*) during turnarounds. The permittee has not listed any emissions from planned process turnarounds that should be permitted.

2.5 Other Processes

2.5.1 Pits and Sumps: The Careaga Lease is not equipped with any pits or sumps.

2.5.2 Unplanned Activities/Emissions: The permittee does not anticipate or foresee any circumstances that would require special equipment use and result in excess emissions.

2.6 Detailed Process Equipment Listing

Refer to Attachment 10.4 in Part II for a complete listing of all permitted equipment at Careaga Lease.

3.0 Regulatory Review

This Section identifies each applicable federal, state and local rule and regulation.

3.1 Rule Exemptions Claimed

📖 District Rule 202 (*Exemptions to Rule 201*): The following exemptions apply to this facility. An exemption from permit, however, does not necessarily grant relief from any applicable prohibitory rule.

- **Section D.6 De Minimis Exemptions**: This section requires that a record of each *de minimis* change at the stationary source, including emission calculations, be maintained and demonstrate that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the District upon request. As of June 2020, the de minimis total at the Orcutt Hill and Casmalia Oil Fields Stationary Source is 20.94 lbs ROC/day. This total does not include the previously claimed emissions from the Sx Sands project (ATC 13140).

- **Section D.8 Routine Repair and Maintenance**: A permit shall not be required for routine repair or maintenance of permitted equipment, not involving structural changes.

- **Section D.14 Architectural Coatings**: Application of architectural coating in the repair and maintenance of a stationary structure is exempt from permit requirements.

- **Section U.2 Degreasing Equipment**: Single pieces of degreasing equipment, which use unheated solvent, and which: a) have a liquid surface area of less than 1.0 square foot unless the aggregate liquid surface area of all degreasers at a stationary source, covered by this exemption is greater than 10 square feet; and b) use only organic solvents with an initial

boiling point of 302^{O} F or greater; or c) use materials with a volatile organic compound content of two-percent or less by weight as determined by EPA Method 24.

- **Section U.3 Wipe Cleaning**: Equipment used in wipe cleaning operations provided that the solvents used do not exceed 55 gallons per year. The permittee shall maintain records of the amount of solvents used for each calendar year. These records shall be kept for a minimum of 3 years and be made available to the District on request.

In addition, the following two Rule 202 permit exemptions may apply:

- **Section F.1.c Internal Combustion Engines**: Engines used to propel vehicles, as defined in Section 670 of the California Vehicle Code, but not including any engine mounted on such vehicles that would otherwise require a permit under the provisions of District Rules and Regulations.

- **Section F.2 Portable Internal Combustion Engines**: Portable ICEs eligible for statewide registration pursuant to Title 13, Section 2450 *et seq*., and not integral to the stationary source operations.

The following Rule exemptions have been approved by the District:

📖 District Rule 321 (*Solvent Cleaning Operations*): Section D.4 exempts solvent wipe cleaning operations from the requirements of this rule.

📖 District Rule 331 (*Fugitive Emission Inspection and Maintenance*): The following exemptions were applied for in the permittee's Inspection and Maintenance Plan and approved by the District:

- Section B.2.b for components buried below the ground.
- Section B.2.c for stainless steel tube fittings.

📖 District Rule 333 (*Control of Emissions from Reciprocating Internal Combustion Engines*): The diesel-fired emergency generator is exempt from Rule 333 per Rule 333.B.1.d.

📖 District Rule 343 (*Petroleum Storage Tank Degassing*): The original storage tanks are subject to a District-approved tank degassing plan.

3.2 Compliance with Applicable Federal Rules and Regulations

3.2.1 40 CFR Parts 51/52 {*New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration*)}: The Careaga Lease was constructed and permitted prior to the applicability of these regulations. All modifications are subject to the District's New Source Review regulation. Compliance with the regulation assures compliance with 40 CFR 51/52.

3.2.2 40 CFR Part 60 {*New Source Performance Standards)*: The original tanks at the Careaga Lease were installed prior to the applicability of Subpart K, Ka and Kb. Any new or replacement tank is subject to subpart Kb.

3.2.3 40 CFR Part 61 {*NESHAP}*: This facility is not currently subject to the provisions of this Subpart.

3.2.4 40 CFR Part 63 {*MACT*}: On June 17, 1999, EPA promulgated Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. This facility currently is not subject to the provisions of

this Subpart. Information was submitted indicating its source is exempt from the requirements of MACT because they demonstrated that this facility is not a "major source" as defined in 40 CFR 63.761. The permittee verified that this lease does not store crude oil with an API gravity of 40^{o} or greater, and does not have a glycol reboiler.

3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally-enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are currently subject to CAM. All emission units at this facility have a pre-control emission potential less than 100 tons/year.

3.2.6 40 CFR Part 70 {*Operating Permits*}: This Subpart is applicable to the Careaga Lease. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the Careaga Lease. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to the Careaga Lease. These tables are based on data available from the District's administrative files and from the permittee's Part 70 operating permit application. Table 3.4 includes the adoption dates of these rules.

In its Part 70 permit application, the permittee certified compliance with all existing District rules and permit conditions. This certification is also required of the permittee semi-annually.

3.3 Compliance with Applicable State Rules and Regulations

3.3.1 Division 26. Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the District. These provisions are District-enforceable only.

3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the Careaga Lease are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are District-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.

3.3.3 Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (CCR Title 17, Section 95665 *et. Seq.*): On October 1, 2017, the California Air Resources Board (CARB) finalized this regulation, which establishes greenhouse gas emission standards for onshore and offshore crude oil and natural gas production facilities. This facility is subject to the provisions of this regulation. The separators and tanks at this facility satisfy the requirements of the CARB regulation through the use of a vapor collection system. This facility is exempt from the leak detection and repair (LDAR) requirements of the CARB regulation per Section 95669(b)(1), which exempts components, including components found on tanks, separators, wells and pressure vessels, that are subject to District Rule 331 LDAR requirements prior to January 1, 2018. This facility does not utilize circulation tanks for well stimulation treatments, centrifugal natural gas compressors, natural gas powered pneumatic devices or pumps, natural gas only wells, or well casing vents, and is therefore not subject to the CARB regulation standards and requirements for these equipment and processes.

3.4 Compliance with Applicable Local Rules and Regulations

3.4.1 Applicability Tables: Tables 3.1 and 3.2 list the federally enforceable District rules that apply to the facility. Table 3.3 lists the non-federally-enforceable District rules that apply to the facility. Table 3.4 lists the adoption date of all rules that apply to the facility.

3.4.2 Rules Requiring Further Discussion: This section provides a more detailed discussion regarding the applicability and compliance of certain rules. The following is a rule-by-rule evaluation of compliance for this facility:

Rule 201 - Permits Required: This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance that may cause the issuance of air contaminants. The equipment included in this permit is listed in Attachment 10.4 of Part II. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

Rule 210 - Fees: Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however, Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C).

Rule 301 - Circumvention: This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and District rules and regulations. To the best of the District's knowledge, the permittee is operating in compliance with this rule.

Rule 302 - Visible Emissions: This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringlemann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringlemann Chart. Sources subject to this rule include all internal combustion engines at the facility. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules and by requiring visible emissions inspections of the diesel engines.

Rule 303 (Nuisance): Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Compliance with this rule is assessed through the District's enforcement staff's complaint response program. Based on the source's location, the potential for public nuisance is small.

Rule 304 (Particulate Matter - Northern Zone): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions. It is highly unlikely that gas fired engines will exceed these particulate matter standards.

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO_2 (by

volume) and 0.3 gr/scf (at 12% CO_2) respectively. It is unlikely that gas fired engines will exceed these standards.

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H_2S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour. No measured data exists to confirm compliance with this rule.

Rule 311 - Sulfur Content of Fuels: This rule limits the sulfur content of fuels combusted on the Careaga to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H_2S) {or 796 ppmvd} for gaseous fuels. All piston IC engines on the lease are expected to be in compliance with the fuel limit as determined by required fuel analysis documentation.

Rule 317 - Organic Solvents: This rule sets specific prohibitions against the discharge of emissions of both photochemically and non-photochemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). Solvents may be used on the lease during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. The permittee will be required to maintain records to ensure compliance with this rule.

Rule 321 - Solvent Cleaning Operations: This rule, revised June 2012, fulfills the commitment in the 2001 and 2004 Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These proposed provisions apply to solvent cleaning machines and wipe cleaning

Rule 322 - Metal Surface Coating Thinner and Reducer: This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. The permittee will be required to maintain records during maintenance operations to ensure compliance with this rule.

Rule 323.1 (Architectural Coatings): This rule sets the standards for any architectural coating that is supplied, sold, offered for sale, or manufactured for use within the District.

Rule 324 - Disposal and Evaporation of Solvents: This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. The permittee will be required to maintain records to ensure compliance with this rule.

Rule 325 - Crude Oil Production and Separation: This rule, adopted January 25, 1994, applies to equipment used in the production, gathering, storage, processing and separation of crude oil and gas prior to custody transfer. The primary requirements of this rule are under Sections D and E. Section D requires the use of vapor recovery systems on all tanks and vessels, including wastewater tanks, oil/water separators and sumps. Section E requires that all produced gas be controlled at all times, except for wells undergoing routine maintenance. All of the tanks on this lease are all connected to the vapor recovery system. Compliance with Section E is met by directing all produced gas to a sales compressor, to a fuel gas source or to a flare relief system.

Rule 326 - Storage of Reactive Organic Liquids: This rule applies to equipment used to store reactive organic compound liquids with a vapor pressure greater than 0.5 psia. The tanks on the Careaga Lease are subject to Rule 325, and are therefore are not subject to this rule per Section B.1.c.

Rule 330 - Surface Coating of Metal Parts and Products: This rule sets standards for many types of coatings applied to metal parts and products. In addition to the ROC standards, this rule sets operating standards for application of the coatings, labeling and recordkeeping. Compliance with this rule will be demonstrated through inspections and recordkeeping.

Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. Ongoing compliance with the many provisions of this rule will be assessed via inspection by the permittee and District personnel using an organic vapor analyzer and through analysis of operator records. The Careaga Lease does not perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the vapor recovery system.

Rule 333 - Control of Emissions from Reciprocating Internal Combustion Engines: This rule applies to all engines with a rated brake horsepower of 50 or greater that are fueled by liquid or gaseous fuels. The IC engine at the facility includes one emergency electrical generator engine that is exempt from the requirements of this rule per Section B.1.d.

Rule 343 - Petroleum Storage Tank Degassing: This rule applies to the degassing of any above-ground tank, reservoir or other container of more than 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 2.6 psia or between 20,000 gallons and 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 3.9 psia. The permittee's compliance plan, required under Section G, was approved by the District on December 5, 1994.

Rule 344 - Sumps, Pits and Well Cellars: Rule 344 requires an inspection and maintenance plan for well cellars. The permittee has instituted a program to monitor well cellars and pump them out if the thickness of the oil/petroleum products exceeds 2 inches or the cellar is over 50-percent full of any liquid. Compliance is determined through required recordkeeping and District inspection.

Rule 352 - Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters: This rule applies to new water heaters rated less than 75,000 Btu/hr and new fan-type central furnaces. It requires the certification of newly installed units.

Rule 353 - Adhesives and Sealants: This rule applies to the use of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers. Compliance shall be based on onsite inspections.

Rule 359 - Flares and Thermal Oxidizers: This rule applies to flares and thermal oxidizers. It requires compliance with specific emission limits and adherence to technological based standards and monitoring, recordkeeping and reporting requirements. The open pipe flare is subject to this rule and, based on the conditions of this permit, will comply with all rule requirements.

Rule 505 - Breakdown Conditions: This rule describes the procedures that the permittee must follow when a breakdown condition occurs to any emissions unit associated with the Careaga Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any

air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;

b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;

c. Is not the result of improper maintenance;

d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;

e. Is not a recurrent breakdown of the same equipment.

Rule 810 - Federal Prevention of Significant Deterioration: This rule, revised June 20, 2013, incorporates the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the District's administrative file.

3.5.1 Facility Inspections. Since the last permit reevaluation, one facility inspection was conducted on September 30, 2020. There were no enforcement actions issued during this inspection.

3.5.2 Violations: There have been no enforcement actions issued to this facility since issuance of the previous permit renewal.

3.5.3 Variances and Significant Historical Hearing Board Actions: There have been no variances or significant historical Hearing Board actions issued since the previous permit renewal.

Table 3.1 - Generic Federally-Enforceable District Rules

Generic Requirements	Affected Emission Units	Basis for Applicability
RULE 101: Compliance by Existing Installations	All emission units	Emission of pollutants
RULE 102: Definitions	All emission units	Emission of pollutants
RULE 103: Severability	All emission units	Emission of pollutants
RULE 201: Permits Required	All emission units	Emission of pollutants
RULE 202: Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function
RULE 203: Transfer	All emission units	Change of ownership
RULE 204: Applications	All emission units	Addition of new equipment of modification to existing equipment.
RULE 205: Standards for Granting Permits	All emission units	Emission of pollutants
RULE 206: Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
RULE 207: Denial of Applications	All emission units	Applicability of relevant Rules
RULE 208: Action on Applications - Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
RULE 212: Emission Statements	All emission units	Administrative
RULE 301: Circumvention	All emission units	Any pollutant emission
RULE 302 : Visible Emissions	All emission units	Particulate matter emissions
RULE 303: Nuisance	All emission units	Emissions that can injure, damage or offend.
RULE 304: Particulate matter – Northern Zone	Each PM Source	Emission of PM in effluent gas
RULE 309: Specific Contaminants	All emission units	Combustion contaminant emission
RULE 311: Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur

Generic Requirements	Affected Emission Units	Basis for Applicability
RULE 317: Organic Solvents	Emission units using solvents	Solvent used in process operations.
RULE 321: Solvent Cleaning Operations	Emission units using solvents	Solvent used in process operations.
RULE 322: Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
RULE 323.I: Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
RULE 324: Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
RULE 353: Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
RULE 505.A, B1, D: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded.
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Orcutt Hill and Casmalia Oil Fields is a major source.
RULE 901: New Source Performance Standards (NSPS)	All emission units	Applicability standards are specified in each NSPS.
RULE 1001: National Emission Standards for Hazardous Air Pollutants (NESHAPS)	All emission units	Applicability standards are specified in each NESHAP
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment.
REGULATION XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	Orcutt Hill and Casmalia Oil Fields is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
RULE 325: Crude Oil Production and Separation	Wash tank, crude storage tanks, wastewater tanks	Pre-custody transfer oil service tanks with capacities exceeding exemption limits.
RULE 331: Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs.
RULE 342: Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters	Steam Generator	Steam Generator rated at greater than 5.000 million Btu per hour.
RULE 343: Petroleum Storage Tank Degassing	Wash tank, crude storage tanks, wastewater tanks	Tanks used in storage of organic liquids with vapor pressure > 2.6 psia.
RULE 344: Petroleum Pits, Sumps and Cellars	Well cellars, sump, wastewater pits	Compliance with this rule provides a 70% reduction in well cellar ROC emissions.
RULE 360: Boilers, Water Heaters, and Process Heaters (0.075 - 2 MMBtu/hr)	Any new small boiler installed at the facility.	New units rated from 75,000 Btu/hr to 2.000 MMBtu/hr.

Table 3.3 - Non-Federally-Enforceable District Rules

Requirement	Affected Emission Units	Basis for Applicability
RULE 210: Fees	All emission units	Administrative
RULE 310: Odorous Org. Sulfides	All emission units	Emission of organic sulfides
RULE 352: Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	New water heaters and furnaces	Upon installation
RULES 501-504: Variance Rules	All emission units	Administrative
RULE 505.B2, B3, C, E, F, G: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
RULES 506-519: Variance Rules	All emission units	Administrative

Table 3.4 - Adoption Dates of District Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	August 25, 2016
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	June 21, 2012
Rule 202	Exemptions to Rule 201	August 25, 2016
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	June 1981
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 20, 2010
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323.I	Architectural Coatings	June 19, 2014
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	July 19, 2001
Rule 326	Storage of Reactive Organic Compound Liquids	July 19, 2001
Rule 328	Continuous Emissions Monitoring	October 23, 1978

Rule No.	Rule Name	Adoption Date
Rule 330	Surface Coating of Metal Parts and Products	June 12, 2012
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	June 19, 2008
Rule 342	Control of Oxides of Nitrogen (NOx) from Boilers, Steam Generators and Process Heaters	June 20, 2019
Rule 343	Petroleum Storage Tank Degassing	December 14, 1993
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 352	Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	October 20, 2011
Rule 353	Adhesives and Sealants	June 21, 2012
Rule 360	Boilers, Water Heaters, and Process Heaters (0.075 - 2 MMBtu/hr)	March 15, 2018
Rule 361	Small Boilers, Steam Generators and Process Heaters	June 20, 2019
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	August 25, 2016
Rule 802	Nonattainment Review	August 25, 2016
Rule 803	Prevention of Significant Deterioration	August 25, 2016
Rule 804	Emission Offsets	August 25, 2016
Rule 805	Air Quality Impact and Modeling	August 25, 2016
Rule 806	Emission Reduction Credits	August 25, 2016
Rule 808	New Source Review for Major Sources of Hazardous Air Pollutants	May 20, 1999
Rule 810	Federal Prevention of Significant Deterioration (PSD)	June 20, 2013
Rule 901	New Source Performance Standards (NSPS)	September 20, 2010
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	August 25, 2016
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	November 9, 1993

Rule No.	Rule Name	Adoption Date
Rule 1304	Issuance, Renewal, Modification and Reopening	November 9, 1993
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- → facility process flow diagrams
- → emission factors and calculation methods for each emissions unit
- → emission control equipment (including RACT, BACT, NSPS, NESHAP, MACT)
- → emission source testing, sampling, CEMS, CAM
- → process monitors needed to ensure compliance

Unless noted otherwise, default ROC/THC reactivity profiles from the District's document titled "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated July 13, 1998 (ver 1.1) was used to determine non-methane, non-ethane fraction of THC.

4.2 Stationary Combustion Sources

4.2.1 General: The stationary combustion sources associated with the Careaga Lease Monterey formation consist of an open-pipe flare and one emergency electrical generator. The open pipe flare and generator are shared equipment.

4.2.2 Open Pipe Flare: The flare is a 23.375 MMBtu/hr open pipe design used in the event that the thermal oxidizer is inoperable. A stack thermocouple monitors exhaust temperature. The emission factors used in the emission calculation are listed below.

Calculated lb/MMBtu limits:

NO_x Emission Factor = 0.068 lb/MMBtu
ROC Emission Factor = 0.200 lb/MMBtu
CO Emission Factor = 0.3700 lb/MMBtu

4.2.3 Emergency Generator: The emergency electrical generator is a Tier 3 490 bhp diesel-fired, turbocharged, backup generator equipped with direct diesel injection, an engine control module, a charge ail cooler, and exhaust gas recirculation. This engine was permitted per ATC/PTO 13257 due to the March 17, 2005 revision to District Rule 202 {*Exemptions to Rule 201*} that resulted in the removal of the compression-ignited engine (e.g., diesel) permit exemption for units rated over 50 brake horsepower (bhp). That exemption was removed to allow the District to implement the State's Airborne Toxic Control Measure for Stationary Compression Ignition Engines (DICE ATCM).
Mass emission estimates are based on the maximum allowed hours for maintenance and testing. Emissions are determined by the following equations:

E1, lb/day = Engine Rating (bhp) * EF (g/bhp-hr) * Daily Hours (hr/day) * (lb/453.6 g)
E2, tpy = Engine Rating (bhp) * EF (g/bhp-hr) * Annual Hours (hr/yr) * (lb/453.6 g) * (ton/2000 lb)

The emission factors (EF) were chosen based on each engine's rating and age. Unless engine specific data was provided, default emission factors are used as documented on the District's webpage at http://www.ourair.org/dice/emission-factors/. Daily hours are assumed to be 2 hrs/day (re: ATCM FAQ Ver 1.5 #32) unless otherwise requested by the applicant.

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices have been quantified using the following two methodologies:

(1) The CARB/KVB Method, (P&P 6100.060.1996 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*) used for older components at the facility.

(2) The component leak path method P&P 6100.061 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts),* is used for newer components installed at this facility.

Emission calculations associated with P&P 6100.060.1996 and P&P 6100.061 are provided in Attachment 10.2. An emission control efficiency of 80-percent is credited to all components due to the implementation of a District-approved I&M program for leak detection and repair consistent with Rule 331 requirements. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records. Permitted fugitive ROC emissions from fugitive components reflect the elimination of ethane from the list of ROCs.

4.4 Tanks/Vessels/Sumps/Separators

4.4.1 Oil-Water Separation, Wash Tanks and Crude Oil Storage Tanks: The Careaga Monterey tank battery utilizes various separation pressure vessels, one 1,500 bbl wash tank, one 1,000 bbl gauge tank and two 1,000 bbl crude storage tanks. The wash tank measures 21.5 feet diameter by 24 feet high, the gauge tank 21.5 feet diameter by 16 feet high and the crude tanks 21.5 feet diameter by 16 feet high. All are vertical, cone roof tanks and are connected to vapor recovery. Emissions from these tanks are calculated using USEPA AP-42, Chapter 7 - Liquid Storage Tanks (5^{th} Edition, 2/96). Attachment 10.2 contains emission spreadsheets showing the detailed calculations for these tanks.

4.4.2 Pits, Sumps and Well Cellars: The Careaga Lease is equipped with 21 well cellars. There are no wastewater pits, wash pits or sumps. Well cellar emissions are reduced 70-percent for maintaining the cellars per the requirements of Rule 344. Fugitive emissions from all other pits and sumps are uncontrolled. These emission estimates are based District P&P 6100.060 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*). The calculation is:

$$ER = [(EF \times SAREA \div 24) \times (1 - CE) \times (HPP)]$$

where:

E = emission rate (lb/period)
EF = ROC emission factor (lb/ft^2-day)
SAREA = unit surface area (ft^2)
CE = control efficiency

HPP = operating hours per time period (hrs/period)

Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for all well cellars, pits and sumps.

4.4.3 Waste Water Tanks: One 2,000 bbl wastewater measures 29.7 feet diameter by 16 feet high and is connected to vapor recovery. Emissions from the tank are calculated using the same methodology as pits and sumps, and is based on District's P&P 6100.060 (*Calculation of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for the Revised ROC Definition*). Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for this tank.

4.4.4 Crude Oil Loading Rack: Crude oil is shipped offsite using by a crude oil loading rack connected to vapor recovery. This unit is utilized for shipping crude oil from both the Monterey and Diatomite facilities. Emissions from the loading rack are calculated using the District Loading Rack Emission Calculation spreadsheet (ver 3.0). Attachment 10.2 contains the emission spreadsheet detailing the calculations for this equipment.

4.5 Other Emission Sources

4.5.1 General Solvent Cleaning/Degreasing: Solvent usage (not used as thinners for surface coating) may occur at the facility as part of normal daily operations. The usage includes cold solvent degreasing. Mass balance emission calculations are used assuming all the solvent used evaporates to the atmosphere.

4.5.2 Surface Coating: Surface coating operations typically include normal touch up activities. Entire facility painting programs may also be performed. Emissions are determined based on mass balance calculations assuming all solvents evaporate into the atmosphere. Emissions of $PM/PM_{10}/PM_{2.5}$ from paint overspray are not calculated due to the lack of established calculation techniques.

4.5.3 Abrasive Blasting: Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be electric or diesel fired. If diesel fired, permits will be required unless the engine is registered with CARB. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to estimate emissions of PM, PM_{10}, and $PM_{2.5}$ when needed for compliance verifications. A PM, $PM/PM_{10}/PM_{2.5}$ ratio of 1.0 is assumed.

4.6 Vapor Recovery/Control Systems

The Tank Vapor Recovery System collects vapors from the tanks at the Monterey and Diatomite tank batteries, as well as, the crude oil loading rack. These vapors undergo preliminary processing and are then routed to the Diatomite Gas Plant where they are treated for sulfur removal then routed to the blending skid and utilized as fuel. Excess gas is combusted in the thermal oxidizer. Overall ROC control efficiency for the system is assumed to be 95 percent.

4.7 BACT/NSPS/NESHAP/MACT

BACT is not triggered for any equipment which exclusively services the Monterey tank battery at the Careaga Lease. There is equipment which is shared by both the Monterey battery and Diatomite tank batteries which triggered BACT. This equipment and these BACT measures are addressed in Part II of this permit.

4.8 CEMS/Process Monitoring/CAM

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: the volume of gas burned in external combustion equipment, engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. This permit requires daily monitoring of the volume of Monterey formation oil produced and shipped through the crude loading rack as well as electronic monitoring of the volume of gas combusted in the thermal oxidizer and open pipe flare. The thermal oxidizer stack temperature is continuously monitored to ensure complete combustion.

4.8.3 CAM: The Orcutt Hill and Casmalia Oil Fields Stationary Source is a major source that is subject to the USEPA's Compliance Assurance Monitoring (CAM) rule (40 CFR 64). Any emissions unit at the facility with uncontrolled emissions potential exceeding major source emission thresholds (100 tpy) for any pollutant is subject to CAM provisions. It was determined that CAM was not applicable to any equipment units at this facility.

4.9 Source Testing/Sampling

Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis for issuing operating permits. Source testing is not required for any equipment that exclusively services the Monterey tank battery.

At a minimum, the process streams below are required to be sampled and analyzed on a periodic basis, per District Rules and standards:

→ Produced Oil: Annual analysis for API gravity and true vapor pressure.

→ Produced Gas: The H_2S and total sulfur content (as necessary) of fuel gas used at the Monterey tank battery.

All sampling and analyses are required to be performed according to District approved procedures and methodologies. Typically, the appropriate ASTM methods are acceptable. For liquids with API gravity over 20, ASTM D323 applies for true vapor pressure (TVP) measurement. In this case, the TVP at the maximum expected temperature shall be calculated from the Reid vapor pressure in accordance with API Bulletin 2518, or equivalent Reid/true vapor pressure correlation. The calculated true vapor pressure is based on the maximum expected operating temperature in the initial crude oil storage tank. TVP sampling methods for liquids with an API gravity under 20^O require specialized procedures per Rule 325.G.2.b. It is important that all sampling and analysis be traceable by chain of custody procedures.

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Total emissions of hazardous air pollutants (HAP) are computed for each emissions unit. The HAP emission factors and references are listed in Table 5.4-1. Potential HAP emissions from the facility, based on the worst-case operational scenario, are computed and listed in Table 5.4-2. The stationary source HAP emission totals are summarized in Table 5.4-3. HAP emissions have

been included in the Part 70 permit solely for the purpose of any future MACT applicability determination. They do not constitute any emissions or operations limit.

5.0 Emissions

5.1 General

The facility was analyzed to determine all air-related emission sources. Emissions calculations are divided into "permitted" and "exempt" categories. District Rule 202 determines permit exempt equipment. The permitted emissions for each emissions unit is based on the equipment's potential-to-emit (as defined by Rule 102).

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility, as well as the federal potential to emit emissions, based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the estimated HAP emissions from the facility. Section 5.5 provides the estimated emissions from permit exempt equipment and also serves as the Part 70 list of insignificant emissions.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

⇒ Nitrogen Oxides (NO_x) [3]
⇒ Reactive Organic Compounds (ROC)
⇒ Carbon Monoxide (CO)
⇒ Sulfur Oxides (SO_x) [4]
⇒ Particulate Matter (PM) [5]
⇒ Particulate Matter smaller than 10 microns (PM_{10})
⇒ Particulate Matter smaller than 2.5 microns ($PM_{2.5}$)
⇒ Greenhouse Gases (GHG)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Tables 5.1-3 and 5.1-4 show the permitted short-term and permitted long-term emissions for each unit or operation. In the table, the last column indicates whether the emission limits are federally-enforceable. Those emission limits that are federally-enforceable are indicated by the symbol “FE”. Those emission limits that are District-only enforceable are indicated by the symbol “A”.

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[3] Calculated and reported as nitrogen dioxide (NO_2)

[4] Calculated and reported as sulfur dioxide (SO_2)

[5] Calculated and reported as all particulate matter smaller than 100 μm

5.3 Permitted Emission Limits - Facility and Federal Potential to Emit Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the Careaga Lease Monterey formation operations. Table 5.3 shows the federal potential to emit from the Careaga Lease Monterey formation operations. Table 5.4 slows the total permitted emissions for the entire Careaga Lease (Monterey and Diatomite).

5.4 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.5-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.5-2. HAP emission totals have been revised since issuance of the previous permit renewal based on revised HAPs emission factors.

5.5 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to District Rule 202 include maintenance operations involving surface coating. In addition, *insignificant activities* such as maintenance operations using paints and coatings, contribute to the facility emissions.

Table 5.1-1
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Operating Equipment Description

			Device Specifications			Usage Data		Maximum Operating Schedule				
Equipment Category	**Description**	**Dev No**	**Feed**	**TVP**	**Size**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**
Combustion Equipment	Open-Pipe Flare	393535	PUC/prod gas		--	23.375	MMBtu/hr	1	1	20	30	30
Internal Combustion Engine	Emergency Generator	115070	D2		--	490	Bhp	1	1	2	50	50
Tanks	Wash Tank	115021	O/W	1.550	1,500 bbls	625	bbl/day	1.0	1.0	24	2,190	8,760
	Gauge Tank	111318	O/W	1.945	1,000 bbls	625	bbl/day	1.0	1.0	24	2,190	8,760
	Shipping Tank	115052	Oil	1.550	1,000 bbls	625	bbl/day	1.0	1.0	24	2,190	8,760
	Shipping Tank	115054	Oil	1.550	1,000 bbls	625	bbl/day	1.0	1.0	24	2,190	8,760
	Wastewater Tank	115051	Water	--	2,000 bbls	--	--	1.0	1.0	24	2,190	8,760
Loading Rack	Loading Rack	115025	See Attached Worksheet for Equipment Description					1.0	1.0	24	2,190	8,760
Fugitive Components (a)	Wellheads, Well Cellars	115024	See Attached Worksheet for Equipment Description					1.0	1.0	24	2,190	8,760
Fugitive Components (b)	Monterey Fugitives (Including Flare)	393563 / 001121	See Attached Worksheet for Equipment Description					1.0	1.0	24	2,190	8,760

Notes:

(a) CARB-KVB Method

(b) Component Leak Path Method

Table 5.1-2
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Equipment Emission Factors

			Emission Factors							
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**$PM_{2.5/10}$**	**GHG**	**Units**
Combustion Equipment	Open-Pipe Flare	393535	0.0680	0.2000	0.3700	0.0075	0.0200	0.0200	117.0000	lb/MMBtu
Internal Combustion Engine	Emergency Generator	115070	2.8000	0.2000	2.6000	0.0100	0.1500	0.1500	556.5800	g/bhp-hr
Tanks	Wash Tank	115021	See attached worksheets for emission factors.							
	Gauge Tank	111318								
	Shipping Tank	115052								
	Shipping Tank	115054								
	Wastewater Tank	115051								
Loading Rack	Loading Rack	115025	--	See attached worksheet for emission factors						lb/ft^2-day
Fugitive Components (a)	Wellheads, Well Cellars	115024	--	--	--	--	--	--		--
Fugitive Components (b)	Monterey Fugitives (Including Flare)	393563 / 001121	--	See attached worksheet for emission factors						lbs/clp/day

Notes:
(a) CARB-KVB Method
(b) Component Leak Path Method

Table 5.1-3
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Hourly and Daily Emissions

Equipment Category	Description	Dev No	NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG		Enforceability Type
			lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	
Combustion Equipment	Open-Pipe Flare	393535	1.59	8.36	4.68	24.59	8.65	45.49	0.18	0.92	0.47	2.46	0.47	2.46	2734.88	14386.19	
Internal Combustion Engine	Emergency Generator	115070	3.02	6.04	0.22	0.43	2.81	5.61	0.01	0.02	0.16	0.32	0.16	0.32	601.24	1202.49	
Tanks	Wash Tank	115021	--	--	0.00	0.04	--	--	--	--	--	--	--	--			FE
	Gauge Tank	111318	--	--	0.03	0.61	--	--	--	--	--	--	--	--			FE
	Shipping Tank	115052	--	--	0.03	0.63	--	--	--	--	--	--	--	--			FE
	Shipping Tank	115054	--	--	0.03	0.63	--	--	--	--	--	--	--	--			FE
	Wastewater Tank	115051	--	--	0.02	0.44	--	--	--	--	--	--	--	--			FE
Loading Rack	Loading Rack (shared)	115025	--	--	0.05	1.24	--	--	--	--	--	--	--	--			A
Fugitive Components (a)	Wellheads, Well Cellars	115024	--	--	3.49	83.73	--	--	--	--	--	--	--	--			A
Fugitive Components (b)	Monterey Fugitives (Including Flare)	393563 / 001121	--	--	0.12	2.87	--	--	--	--	--	--	--	--			FE

Notes:
A = APCD enforceable emission limit.
FE = Federally enforceable emission limit.

(a) CARB-KVB Method
(b) Component Leak Path Method

Table 5.1-4
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Quarterly and Annual Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG		Enforceability
Equipment Category	**Description**	**Dev No**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**Type**
Combustion Equipment	Open-Pipe Flare	393535	0.13	0.13	0.37	0.37	0.68	0.68	0.01	0.01	0.04	0.04	0.04	0.04	215.79	215.79	
Internal Combustion Engine	Emergency Generator	115070	0.08	0.08	0.01	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	30062.19	30062.19	
Tanks	Wash Tank	115021	--	--	0.00	0.01	--	--	--	--	--	--	--	--			FE
	Gauge Tank	111318	--	--	0.03	0.11	--	--	--	--	--	--	--	--			FE
	Shipping Tank	115052	--	--	0.02	0.09	--	--	--	--	--	--	--	--			FE
	Shipping Tank	115054	--	--	0.02	0.09	--	--	--	--	--	--	--	--			FE
	Wastewater Tank	115051	--	--	0.02	0.08	--	--	--	--	--	--	--	--			FE
Loading Rack	Loading Rack (shared)	115025	--	--	0.10	0.38	--	--	--	--	--	--	--	--			A
Fugitive Components (a)	Wellheads, Well Cellars	115024	--	--	0.04	0.14	--	--	--	--	--	--	--	--			A
Fugitive Components (b)	Monterey Fugitives (Including Flare)	393563 / 001121	--	--	0.13	0.52	--	--	--	--	--	--	--	--			FE

Notes:
A = APCD enforceable emission limit.
FE = Federally enforceable emission limit.
Emissions listed as 0.00 calculate to less than 0.01.

Table 5.2
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Careaga Lease Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.59	4.68	8.65	0.18	0.47	0.47	2734.88
Internal Combustion Engine	3.02	0.22	2.81	0.01	0.16	0.16	601.24
Tanks	--	0.10	--	--	--	--	--
Loading Rack	--	0.05	--	--	--	--	--
Wellheads/Well Cellars	--	3.49	--	--	--	--	--
Fugitive Components	--	0.12	--	--	--	--	--
	4.61	**8.65**	**11.45**	**0.19**	**0.63**	**0.63**	**3,336.12**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	8.36	24.59	45.49	0.92	2.46	2.46	14386.19
Internal Combustion Engine	6.04	0.43	5.61	0.02	0.32	0.32	1,202.49
Tanks	--	2.35	--	--	--	--	--
Loading Rack	--	1.24	--	--	--	--	--
Wellheads/Well Cellars	--	83.73	--	--	--	--	--
Fugitive Components	--	2.87	--	--	--	--	--
	14.41	**115.21**	**51.11**	**0.94**	**2.78**	**2.78**	**15,588.68**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	0.13	0.37	0.68	0.01	0.04	0.04	215.79
Internal Combustion Engine	0.08	0.01	0.07	0.00	0.00	0.00	30,062.19
Tanks	--	0.09	--	--	--	--	--
Loading Rack	--	0.04	--	--	--	--	--
Wellheads/Well Cellars	--	3.82	--	--	--	--	--
Fugitive Components	--	0.13	--	--	--	--	--
	0.20	**4.45**	**0.75**	**0.01**	**0.04**	**0.04**	**30,277.98**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	0.13	0.37	0.68	0.01	0.04	0.04	215.79
Internal Combustion Engine	0.08	0.01	0.07	0.00	0.00	0.00	30,062.19
Tanks	--	0.38	--	--	--	--	--
Loading Rack		0.14	--	--	--	--	--
Wellheads/Well Cellars		15.28	--	--	--	--	--
Fugitive Components	--	0.52	--	--	--	--	--
	0.20	**16.69**	**0.75**	**0.01**	**0.04**	**0.04**	**30,277.98**

Table 5.2
Careaga Lease: Pt70 Permit to Operate 16033 (Part I)
Careaga Lease Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.59	4.68	8.65	0.18	0.47	0.47	2734.88
Internal Combustion Engine	3.02	0.22	2.81	0.01	0.16	0.16	601.24
Tanks	--	0.10	--	--	--	--	--
Loading Rack	--	0.05	--	--	--	--	--
Wellheads/Well Cellars	--	3.49	--	--	--	--	--
Fugitive Components	--	0.12	--	--	--	--	--
	4.61	**8.65**	**11.45**	**0.19**	**0.63**	**0.63**	**3,336.12**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	8.36	24.59	45.49	0.92	2.46	2.46	14386.19
Internal Combustion Engine	6.04	0.43	5.61	0.02	0.32	0.32	1,202.49
Tanks	--	2.35	--	--	--	--	--
Loading Rack	--	1.24	--	--	--	--	--
Wellheads/Well Cellars	--	83.73	--	--	--	--	--
Fugitive Components	--	2.87	--	--	--	--	--
	14.41	**115.21**	**51.11**	**0.94**	**2.78**	**2.78**	**15,588.68**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	0.13	0.37	0.68	0.01	0.04	0.04	215.79
Internal Combustion Engine	0.08	0.01	0.07	0.00	0.00	0.00	30,062.19
Tanks	--	0.09	--	--	--	--	--
Loading Rack	--	0.04	--	--	--	--	--
Wellheads/Well Cellars	--	3.82	--	--	--	--	--
Fugitive Components	--	0.13	--	--	--	--	--
	0.20	**4.45**	**0.75**	**0.01**	**0.04**	**0.04**	**30,277.98**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	0.13	0.37	0.68	0.01	0.04	0.04	215.79
Internal Combustion Engine	0.08	0.01	0.07	0.00	0.00	0.00	30,062.19
Tanks	--	0.38	--	--	--	--	--
Loading Rack		0.14	--	--	--	--	--
Wellheads/Well Cellars		15.28	--	--	--	--	--
Fugitive Components	--	0.52	--	--	--	--	--
	0.20	**16.69**	**0.75**	**0.01**	**0.04**	**0.04**	**30,277.98**

Table 5.5-1
Careaga Lease (Diatomite): Pt70 Permit to Operate 16033
Equipment Hazardous Air Pollutant Factors

Equipment Category	Description	Dev No	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Acetaldehyde	Acrolein	Benzene	Ethyl Benzene	Formaldehyde	n-Hexane	PAHs	Toluene	Iso-Octane	Xylenes	Units	References
Combustion Equipment	Steam Generator[1]	115058	1.78E-07	1.07E-08	9.80E-07	1.25E-06	7.49E-08	4.46E-07	3.39E-07	2.32E-07	1.87E-06	2.14E-08	2.05E-06	2.76E-06	2.41E-06	5.17E-06	6.15E-06	1.10E-05	4.10E-06	3.57E-07	2.36E-05	--	1.76E-05	lb/MMBtu	A,B[2]
	Thermal Oxidizer[1]	386087	1.78E-07	1.07E-08	9.80E-07	1.25E-06	7.49E-08	4.46E-07	3.39E-07	2.32E-07	1.87E-06	2.14E-08	2.05E-06	3.83E-05	8.91E-06	1.42E-04	1.29E-03	1.04E-03	2.58E-05	1.25E-05	5.17E-05	--	2.58E-05	lb/MMBtu	B[2],C
Tanks	Wash Tank[3]	115073	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Shipping Tank[3]	115079	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Shipping Tank[3]	115077	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Wastewater Tank[3]	115076	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
Loading Rack	Loading Rack	115025	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	G
Fugitive Components (a)	Diatomite Fugitives[4]	115086	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00256	--	--	0.253	--	--	0.2225	--	lb/lb-ROC	E

References:
A - Ventura County Air Pollution Control District. May 2001. *AB 2588 Combustion Emission Factors*. Natural Gas Fired External Combustion Equipment Table - 10-100 MMBTUh.
B - USEPA. July 1998. *AP-42 Chapter 1.4*. Table 1.4-4: Emission Factors for Metals from Natural Gas Combustion.
C - Ventura County Air Pollution Control District. May 2001. *AB 2588 Combustion Emission Factors*. Natural Gas Fired External Combustion Equipment Table - flare.
D - California Air Resources Board. August 1991. *Identification of Volatile Organic Compound Species Profiles*. Profile #297: Crude Oil Evaporation – Vapor Composite from Fixed Roof Tanks.
E - California Air Resources Board. August 1991. *Identification of Volatile Organic Compound Species Profiles*. Profile #756: Oil & Gas Production Fugitives – Liquid Service.
F - Santa Barbara County APCD: For HAP calculations, solvents are assumed to contain 5% benzene, 5% toluene and 5% xylenes.

Notes:
1. The emission factors, originally in units of lb/MMcf, were converted to lb/MMBtu using the heat content of 1,122 Btu/cf from the permit application.
2. The lead emission factor is from AP-42 Table 1.4-2: Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion.
3. The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using the District's default ROC/TOC fraction of 0.885 for crude oil.
4. The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.391 from Table 3.2.3 of the District's P&P 6100.060.

Table 5.5-2
Careaga Lease (Diatomite): Pt70 Permit to Operate 16033
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Acetaldehyde	Acrolein	Benzene	Ethyl Benzene	Formaldehyde	n-Hexane	PAHs	Toluene	Iso-Octane	Xylenes
Combustion Equipment	Steam Generator	115058	2.07E-05	1.24E-06	1.14E-04	1.45E-04	8.69E-06	5.17E-05	3.93E-05	2.69E-05	2.17E-04	2.48E-06	2.38E-04	3.21E-04	2.79E-04	6.00E-04	7.14E-04	1.27E-03	4.76E-04	4.14E-05	2.74E-03	--	2.04E-03
	Thermal Oxidizer	386087	3.20E-05	1.92E-06	1.76E-04	2.24E-04	1.34E-05	8.00E-05	6.08E-05	4.16E-05	3.36E-04	3.84E-06	3.68E-04	6.88E-03	1.60E-03	2.54E-02	2.31E-01	1.87E-01	4.64E-03	2.24E-03	9.28E-03	--	4.64E-03
Tanks	Wash Tank	115073	--	--	--	--	--	--	--	--	--	--	--	--	--	3.99E-06	--	--	7.82E-06	--	2.33E-06	6.66E-07	--
	Shipping Tank	115079	--	--	--	--	--	--	--	--	--	--	--	--	--	2.44E-03	--	--	4.78E-03	--	1.42E-03	4.07E-04	--
	Shipping Tank	115077	--	--	--	--	--	--	--	--	--	--	--	--	--	2.44E-03	--	--	4.78E-03	--	1.42E-03	4.07E-04	--
	Wastewater Tank	115076	--	--	--	--	--	--	--	--	--	--	--	--	--	2.17E-03	--	--	4.25E-03	--	1.27E-03	3.62E-04	--
Loading Rack	Loading Rack	115025	--	--	--	--	--	--	--	--	--	--	--	--	--	6.51E-03	--	--	1.27E-02	--	3.80E-03	1.08E-03	--
Fugitive Components (a)	Diatomite Fugitives	115086	--	--	--	--	--	--	--	--	--	--	--	--	--	1.33E-03	--	--	1.32E-01	--	--	1.16E-01	--
	Total HAPs (TPY)		**5.27E-05**	**3.16E-06**	**2.90E-04**	**3.69E-04**	**2.21E-05**	**1.32E-04**	**1.00E-04**	**6.85E-05**	**5.53E-04**	**6.32E-06**	**6.06E-04**	**7.20E-03**	**1.88E-03**	**4.09E-02**	**2.32E-01**	**1.88E-01**	**1.63E-01**	**2.28E-03**	**1.99E-02**	**1.18E-01**	**6.68E-03**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

Table 5.5-3
Pacific Coast Energy Company- Orcutt Hill
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Formaldehyde	n-Hexane	Acetaldehyde	Benzene	Toluene	PAHs	Acrolein	Xylenes	Ethyl Benzene	Napthalene	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Vanadium	Biphenyl	1,3-Butadiene	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,3-Dichloropropene	Carbon Tetrachloride	Chloroethane	Chloroform	Ethylene Dibromide	Hydrocloric Acid	Lead	Methylene Chloride	Methanol	Phenol	Styrene	Vinyl Chloride	Total - All HAPS
1517 - Careaga Lease	PTO 16033 (Part II Diatomite)	1.97E-03	9.34E-01	5.60E-04	4.13E-01	2.57E-01	4.34E-05	2.68E-05	3.86E-05	4.59E-04	1.75E-01	1.18E-06	3.75E-09	1.39E-06	8.56E-07	2.63E-08	2.28E-06	1.48E-06	3.38E-06	1.54E-06	7.19E-07	--	1.52E-04	--	--	--	--	--	--	1.30E-04	5.95E-06	--	--	--	--	--	1.78E+00
1904 - Orcutt Hill Field (MVFF)	PTO 15256 - R2	--	9.98E-04	--	2.78E-04	1.13E-03	2.03E-05	--	9.37E-04	1.95E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.56E-03
3206 - Cal Coast Lease (Orcutt Hill)	PTO 8226-R13	--	5.41E-01	--	4.54E+00	4.51E+00	--	--	4.47E+00	--	2.75E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.43E+01
3212 - Arellanes Lease	PTO 8976-R11	--	2.87E-01	--	4.19E-02	2.49E-02	--	--	--	--	1.90E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.44E-01
3303 - Morganti Lease	PTO 8096-R12	2.40E-02	1.16E+00	8.84E-04	2.17E-01	1.29E-01	2.88E-04	2.06E-04	6.05E-04	2.97E-02	6.93E-01	4.18E-06	2.51E-07	2.30E-05	2.93E-05	1.76E-06	7.94E-06	5.43E-06	4.39E-05	5.02E-07	4.81E-05	--	--	--	--	--	--	--	--	--	1.04E-05	--	--	--	--	--	2.25E+00
3304 - Muscio Lease	PTO 8980-R10	--	7.18E-02	--	1.05E-02	6.22E-03	--	--	--	--	4.74E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.36E-01
3313 - Fox Lease	PTO 8514-R12	--	2.50E-01	--	3.03E-03	5.00E-04	--	--	5.00E-04	--	1.47E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.01E-01
3314 - Dome Lease	PTO 9080-R10	--	4.24E-01	--	2.88E-02	1.58E-02	--	--	5.00E-04	--	2.20E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.89E-01
3315 - Escolle Lease	PTO 16207	7.09E-05	7.79E-01	1.79E-05	8.20E-02	4.88E-02	1.67E-06	1.13E-05	5.11E-03	3.96E-05	5.75E-01	8.34E-07	5.01E-08	4.59E-06	5.84E-06	3.50E-07	1.59E-06	1.08E-06	8.76E-06	1.00E-07	9.59E-06	--	--	--	--	--	--	--	--	--	2.09E-06	--	--	--	--	--	1.49E+00
3316 - Folsom Lease	PTO 9026-R10	--	4.96E-01	--	3.43E-02	1.89E-02	--	--	5.00E-04	--	2.62E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.12E-01
3318 - Graciosa Lease	PTO 9028-R10	--	1.33E-01	--	6.65E-03	3.56E-03	--	--	5.00E-04	--	7.35E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.16E-01
3319 - Hartnell Lease	PTO 9029-R10	--	6.53E-01	--	3.30E-02	1.68E-02	--	--	5.00E-04	--	3.69E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.07E+00
3320 - Hobbs Lease	PTO 9027-R10	--	4.34E-01	--	3.37E-02	1.89E-02	--	--	5.00E-04	--	2.26E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.13E-01
3321 - Newlove Lease	PTO 8240-R12 (Part II Diatomite)	9.62E-03	1.01E+00	2.42E-03	3.27E-02	2.61E-02	5.48E-04	2.11E-03	1.54E-02	5.40E-03	8.82E-01	1.56E-04	9.39E-06	8.60E-04	1.10E-03	6.57E-05	2.97E-04	2.03E-04	1.64E-03	1.88E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99E+00
3322 - Pinal Lease	PTO 8502-R11	--	7.24E-01	--	7.90E-02	4.50E-02	--	--	5.00E-04	--	4.51E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.30E+00
3323 - Rice Ranch Lease (Orcutt Hill)	PTO 9035-R10	--	6.28E-02	--	1.13E-03	5.00E-04	--	--	5.00E-04	--	3.68E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.02E-01
3324 - Squires Lease	PTO 8223-R12	--	9.87E-01	--	9.66E-02	5.56E-02	--	--	5.00E-04	--	4.97E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.64E+00
3485 - Getty Hobbs Lease (Orcutt Hill)	PTO 9031-R10	--	7.26E-02	--	6.03E-03	3.56E-03	--	--	5.00E-04	--	3.77E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20E-01
3948 - Righetti Lease	PTO 16215	--	7.34E-02	--	1.54E-02	1.11E-02	--	--	5.00E-03	--	4.91E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.54E-01
4104 - Orcutt Hill Compressor Plant	PTO 8174-R10	3.55E-05	4.48E-01	8.97E-06	2.36E-02	5.76E-04	1.46E-06	5.63E-06	5.57E-04	1.98E-05	--	4.17E-07	2.50E-08	2.29E-06	2.92E-06	1.75E-07	7.93E-07	5.42E-07	4.38E-06	5.01E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.73E-01
4214 - Orcutt Hill IC Engines	PTO 8839-R12	1.65E+00	3.19E-03	2.85E-01	1.32E-01	5.11E-02	9.80E-02	1.92E-01	1.84E-02	2.99E-03	4.65E-04	1.75E-04	--	1.64E-04	6.57E-05	--	3.39E-04	2.19E-04	4.27E-04	2.41E-04	--	2.17E-06	7.06E-02	1.81E-03	1.10E-03	9.12E-04	1.27E-03	9.48E-04	9.84E-04	1.53E-03	2.04E-02	9.09E-04	2.96E-03	2.15E-01	2.32E-05	8.62E-04	5.16E-04	2.78E+00
4216 - Casmalia IC Engines	PTO 16216	1.34E-01	--	1.83E-02	1.04E-02	3.66E-03	1.56E-03	1.72E-02	1.28E-03	1.63E-04	--	--	--	--	--	--	--	--	--	--	--	--	4.34E-03	1.66E-04	1.00E-04	8.32E-05	1.16E-04	8.45E-05	8.98E-05	1.40E-04	--	--	2.70E-04	2.01E-02	--	7.80E-05	4.70E-05	2.12E-01
4501 - N.R. Bonetti Lease (Casmalia)	PTO 16217	--	2.20E-01	--	3.61E-02	2.34E-02	--	--	5.00E-03	--	1.47E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.32E-01
10482 - Orcutt Hill - Steam Generators	PTO 11405-R6	1.18E-03	6.99E-02	2.97E-04	2.40E-03	3.04E-03	6.72E-05	2.59E-04	2.39E-03	6.62E-04	6.19E-02	1.92E-05	1.15E-06	1.06E-04	1.34E-04	8.06E-06	3.65E-05	2.49E-05	2.01E-04	2.30E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.43E-01
11593 - Escolle Lease - Amrich	PTO 16208	7.47E-03	2.36E-01	2.75E-04	2.32E-02	1.37E-02	8.94E-05	6.39E-05	5.19E-03	9.22E-03	1.87E-01	1.28E-06	7.66E-08	7.03E-06	8.94E-06	5.36E-07	2.43E-06	1.66E-06	1.34E-05	1.53E-07	1.47E-05	--	--	--	--	--	--	--	--	--	3.19E-06	--	--	--	--	--	4.83E-01
	Total Stationary Source - By Pollutant	**1.83E+00**	**1.01E+01**	**3.08E-01**	**5.90E+00**	**5.29E+00**	**1.01E-01**	**2.12E-01**	**4.54E+00**	**4.88E-02**	**5.60E+00**	**3.59E-04**	**1.09E-05**	**1.17E-03**	**1.34E-03**	**7.66E-05**	**6.88E-04**	**4.57E-04**	**2.34E-03**	**2.64E-04**	**7.31E-05**	**2.17E-06**	**7.51E-02**	**1.97E-03**	**1.20E-03**	**9.95E-04**	**1.39E-03**	**1.03E-03**	**1.07E-03**	**1.67E-03**	**2.05E-02**	**9.30E-04**	**3.23E-03**	**2.35E-01**	**2.32E-05**	**9.40E-04**	**5.63E-04**	**3.42E+01**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for this stationary source.

6.2 Increments

An air quality increment analysis has not been required for this stationary source.

6.3 Monitoring

Air quality monitoring is not required for this stationary source.

6.4 Health Risk Assessment

The most recent health risk assessment (HRA) conducted for this facility was completed in March 2016 for the issuance of Authority to Construct 13986, when the Careaga Lease and associated equipment was owned by Santa Maria Energy, LLC (SME). The HRA included all permitted emission sources at the stationary source (previously named as the Santa Maria Energy - Orcutt Field Stationary Source) at the time of issuance. This HRA was originally conducted by SME, and then the District revised the modeling and finalized the risk results. Cancer risk and chronic and acute non-cancer hazard index (HI) risk values were calculated and compared to significance thresholds for cancer and noncancer impacts as adopted by the District's Board of Directors. All results were below the significance thresholds. The calculated risk values and applicable thresholds are as follows:

	SME Orcutt Field Max Risks	Significance Threshold
Cancer risk:	2.26/million	≥10/million
Chronic HI:	<0.1	>1
Chronic 8-hour HI:	<0.1	>1
Acute HI:	0.4	>1

Since the issuance of Authority to Construct 13986 in March 2016, changes in operations as well as lease ownership have occurred. Specifically, the Careaga Lease is now owned by PCEC and is part of the Orcutt Hill and Casmalia Oil Fields stationary source, as it is adjacent to the other leases under common ownership in the Orcutt Hill area. This stationary source is subject to the requirements of the Air Toxics "Hot Spots" Program (AB 2588) and will be required to conduct a comprehensive HRA under that program.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County is categorized as nonattainment-transitional for the state ozone ambient air quality standard. The County also does not meet the state PM_{10} ambient air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress toward attainment of state ambient air quality standards. Under District regulations, any modifications at the source that result in an emissions increase of

any nonattainment pollutant exceeding 25 lbs/day must apply BACT Non-Attainment Review (NAR). Increases above offset thresholds will trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 240 lbs/day for all attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$) and 25 tons/year for all non-attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$).

7.2 Clean Air Plan

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

In December 2022 the District Board adopted the 2022 Ozone Plan. The 2022 Plan provides a three-year update to the 2019 Ozone Plan. The 2022 Ozone Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

The Orcutt Hill and Casmalia Oil fields stationary source triggers emission offsets for NOx and ROCs. Tables 7.3-1, 7.3-2 document historical NOx and ROC emission offsets prior to the District's NSR Rule revision on August 25, 2016. Tables 7.3(a) and 7.3(b) summarize the emissions and offset totals for this stationary source. This initial PT-70 permit is required due to the transfer of owner/operator and inclusion of the Careaga Lease into the PCEC Stationary Source, however no new emissions are authorized, as a result offsets are not required for this permitting action.

TABLE 7.3-1
NOx Emissions and ERCs Used
Pacific Coast Energy Orcutt Hill

PROJECT/ PERMIT	Issuance Date	NOx TPY	ERC Certificate
I.C. Engines From Previous Permits (P8039-R6)	29-Mar-09	0.239	249 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	1.670	249 [(a)(b)]
Newlove Diatomite Project (A12084-03)	5-Nov-10	6.020	249 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	15-Jun-12	1.090	249, [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	2.338	249 [(a)(b)]
		11.357	

	Emission Reduction Credits Used TPY	Distance Factor	Emission Liability TPY
NOx ERCs	13.628	1.2	11.357
TOTAL	**13.628**		**11.357**

Notes:

(a) ERCs are used to offset NOx emissions with a 1.2 distance factor.
ERCs are created from within the same stationary source,

(b) ERCs generated from the electrification of seventeen gas fired engines at the Orcutt Hill Stationary Source.

(c) Emission units: TPQ = tons per quarter; TPY = tons per year.

(d) ERCs from ATC 13000 are still is use despite the cancellation of the permit due to Rule 806.

TABLE 7.3-2
ROC Emissions and ERCs Used
Pacific Coast Energy Orcutt Hill

PROJECT/PERMIT	Issuance Date	ROC TPY	ERC Certificate
Pinal Replace 3,000 Bbl Wash Tank (P10752)	2-Jan-02	0.010	172 [(a)(b)]
Cal Coast Replace 2000 bbl Crude Tank (P10934)	10-Jun-03	0.120	172 [(a)(b)]
Cal Coast 750 Bbl Wash Tank (P10833)	25-Jun-03	0.070	172 [(a)(b)]
Cal Coast 750 Bbl Wastewater Tank (P11191)	12-Jul-04	0.140	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to Sulfur Scrubber (P11580)	25-Jul-05	0.090	172 [(a)(b)]
Orcutt MVFF (A11666)	27-Jul-05	0.040	172 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	29-Mar-06	0.770	172 [(a)(b)]
I.C. Engines NEI From Previous Permits (P8039-R6)	29-Mar-06	0.010	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to a Sulfur Scrubber (A12032)	5-Jun-07	0.010	172 [(a)(b)]
Compressor Plant New VRU & Component Update (A12767)	8-Aug-08	1.100	172 [(a)(b)]
Newlove Four New Wells (A13141)	16-Apr-09	0.040	172 [(a)(b)]
Newlove Throughput Increase (A13134)	15-Jun-09	0.170	172 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	0.235	172 [(a)(b)(g)]
Compressor Plant Replaced Road Oil Tank with a Wastewater Tank (A13161)	18-Aug-09	0.110	172 [(a)(b)]
Squires Convert Liquid Knockout to a Sulfur Scrubber (A13296)	20-Nov-09	0.160	172 [(a)(b)]
Newlove Twenty-nine New Sx Sand Wells (A13140)	2-Dec-09	2.240	172 [(a)(b)]
Newlove Five Sx Wells (P13230) [(f)]	29-Dec-09	0.405	172 [(a)(b)]
Newlove New Sulfur Scrubber (A13397)	16-Jun-10	0.180	172 [(a)(b)]
Newlove Loading Rack (A13513) [(e)]	4-Nov-10	0.095	172 [(a)(b)]
Cal Coast Loading Rack & Throughput Increase (A13514) [(e)]	4-Nov-10	0.129	172 [(a)(b)]
Pinal Loading Rack & Throughput Increase (A13539) [(e)]	4-Nov-10	0.023	172 [(a)(b)]
Newlove Diatomite Project (A12084-03)	15-Nov-10	5.290	172 [(a)(b)]
I.C. Engines New 80 bhp Backup Generator for the Field Office (A13592) [(e)]	3-Feb-11	0.001	237 [(a)(b)]
Hartnell New H2S Scrubber at K7 (A13408)	3-May-11	0.230	172 [(a)(b)]
Newlove Vacuum Truck Washout Station (A13368)	10-Nov-11	0.889	172 [(a)(b)]
Newlove Replace 3,000 Bbl Wash Tank (A13948)	27-Sep-12	0.000	172 [(a)(b)]
Orcutt Compressor Plant H2S Scrubber Replacement (A13902)	7-Dec-12	0.170	270 [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	3.753	270 [(a)(b)]
Newlove Lease Backup Vapor Recovery Unit (A14019)	15-Apr-13	0.179	270 [(a)(b)]
Cal Coast Lease Vapor Recovery Compressors (A14179-01)	11-Dec-14	0.018	296 [(a)(b)]
Pinal Lease Vapor Recovery Compressors (A14180-01)	11-Dec-14	0.073	296 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.240	269 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.043	296 [(a)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.167	270 [(a)]
Orcutt Hill Compressor Plant Pressure Vessel Replacement (A14343)	10-Mar-14	0.176	288 [(a)]
Newlove Lease Tank, Separators, and Heat Exchangers (A14385)	14-Oct-14	0.790	345 [(a)(b)]
Orcuttt Hill Compressor Plant Pressure Vessek Replacement (AM 14343-01)	28-Oct-14	0.081	329 [(a)(b)]
Cal Coast Lease Replacement Crude Oil Tank (AM 14223-01)	13-Jan-15	0.100	269 [(a)(b)]
		18.347	

	TPY	Distance Factor	Emission Liability TPY
ROC ERCs	3.304	1.2	2.753
NOx ERCs	18.745	1.2	15.621
TOTAL	**22.049**		**18.374**

Notes:

(a) ERCs are used to offset ROC emissions with a 1.2 distance factor.
ERCs are created from within the same stationary source,
The offset ratio of 1.2 is used per Rule 802 Table 4.

(b) Interpollutant trade. NOx ERCs used to offset ROC emissions with a 1.0 interpollutant trade factor.

(c) ERCs generated from the electrification of seventeen gas fired engines at the Orcutt Hill Stationary Source.

(d) Emission units: TPQ = tons per quarter; TPY = tons per year.

(e) TPQ is not equal to TPY/4 per ATC applications 13513, 13514, 13539, & 13592

(f) This value also corrects an error in the ATC 13230 offset table.
In the ATC 13230 offset table only the emissions from components in gas service were offset.
The emissions from the components in oil service and in gas service should have been offset.

(g) ERCs from ATC 13000 are still is use despite the cancellation of the permit due to Rule 806.

(h) The NEI for ATC 14179-01 is lower than the PPTE since the permit includes a D term.

(i) The NEI for ATC 14180-01 is lower than the PPTE since the permit includes a D term.

(j) Adjusted the NEI for ATC 14223 since the tank was changed from a crude storage tank to a wash tank. Fugitives also added.

Table 7.3(a) - Offset Liability Table for PCEC Orcutt Hill and Casmalia Oil Fields Stationary Source
Updated: January 30, 2024

Item	Permit	Facility	Issue Date	ERC Returned?	Project	Offset Liability ---- tons/year ---- NO_X	ROC	ERC Source	Notes
1	Prior Offset Liabilities	Various	pre-8/2016	n/a	See Archive Offset Tables	11.357	18.348	Various	(a)
2	ATC 14921	Pinal Lease	03/09/17	No	Wash Tank Replacement	0.000	0.440	ERC 301	(b)
3	ATC/PTO 15256	Orcutt Hill Field (MVFF)	11/30/18	No	MVFF Throughput Increase	0.000	0.013	ERC 462	
4	ATC 15506	Newlove Lease	07/30/20	No	Wash Tank Replacement	0.000	0.270	ERC 507	
5	ATC 15980	Cal Coast Lease (Orcutt Hill)	04/27/23	No	Wash Tank Replacement	0.000	0.090	ERC 565	(b)
6	ATC 16040	Pinal Lease	07/12/23	No	Produced Water Tank Replacement	0.000	0.196	ERC 548	(b)
7	ATC 16121	Newlove Lease	TBD	No	Wash Tank Replacement	0.000	0.128	ERC 640	(b)
					TOTALS (tpy) =	11.357	19.485		

Notes
(a) Pre-August 26, 2016 offset liabilities are summarized in Items (1). See facility Archive Offset Tables for details.
(b) NOx for ROC Interpollutant trade.
(c) See Table 1(b) for ERCs required to mitigate the offset liability. ERC Source denotes the ERC Certificate # used by the ATC permit.
(d) Permits with zero emission increases not shown in this table.

\\Nt\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 02667 Pacific Coast Energy Orcutt Hill\Offsets\[Post 2016 NSR Rule Change PCEC Orcutt Hill Offset- ERC Table - (04- 03- 23).xlsx]Table 1(b) - ERCs

Table 7.3(b) - Emission Reduction Credits Table for PCEC Orcutt Hill and Casmalia Oil Fields Stationary Source
Updated: January 30, 2024

Item	Permit	Facility	Surrender Date	ERC Returned?	Emission Reduction Credits ---- tons/year ---- NO_X	ROC	Offset Ratio	ERC Source	NOTES
1	Prior Offset Liabilities	Various	pre-8/2016	n/a	13.628	22.017	varied	Various	(a)(b)
2	ATC 14921	Pinal Lease	03/09/17	No	0.000	0.484	1.1	ERC 301	(a)(b)(c)
3	ATC/PTO 15256	Orcutt Hill Field (MVFF)	11/30/18	No	0.000	0.014	1.1	ERC 462	(a)(b)
4	ATC 15506	Newlove Lease	07/30/20	No	0.000	0.297	1.1	ERC 507	(a)(b)
5	ATC 15980	Cal Coast Lease (Orcutt Hill)	04/27/23	No	0.000	0.099	1.1	ERC 565	(a)(b)(c)
6	ATC 16040	Pinal Lease	01/17/23	No	0.000	0.215	1.1	ERC 548	(a)(b)(c)
7	ATC 16121	Newlove Lease	TBD	No	0.000	0.141	1.1	ERC 640	(a)(b)
				TOTALS (tpy) =	13.628	23.268			

Notes
(a) Items 1 reflects all NSR ERCs used for the PCEC Orcutt Hill stationary source facilities prior to August 26, 2016. See the August 26, 2016 Archive Offset Tables for details.
(b) Brown text cells require data entry. Do not enter data in Black text cells
(c) NOx for ROC interpollutant trade.

\\Nt\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 02667 Pacific Coast Energy Orcutt Hill\Offsets\[Post 2016 NSR Rule Change PCEC Orcutt Hill Offset- ERC Table - (04- 03- 23).xlsx]Table 1(b) - ERCs

7.4 Emission Reduction Credits

The Careaga Lease does not provide emission reduction credits.

8.0 Lead Agency Permit Consistency

To the best of the District's knowledge, no other governmental agency's permit requires air quality mitigation.

9.0 Permit Conditions

This section lists the applicable permit conditions for the Careaga Lease. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Section D lists non-federally-enforceable (i.e., District only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the District, the State of California and the public. Conditions listed in Section D are enforceable only by the District and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the Careaga Lease:

A.1 Compliance with Permit Conditions.

(a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.

(b) This permit does not convey property rights or exclusive privilege of any sort.

(c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

(d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.

(f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:

(i) compliance with the permit, or

(ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. [*Re: 40 CFR Part 70.6, District Rules 1303.D.1]*

(g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

A.2 Compliance Plan.

(a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in any compliance plan required under any federally-enforceable rules or standards.

(b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards. [*Re: District Rule 1302.D.2*]

A.3 Right of Entry.

The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

(a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;

(b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;

(c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [*Re: District Rule 1303.D.2*]

A.4 Permit Life.

The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules.

The permittee shall apply for renewal of the Part 70 permit not later than 6-months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [*Re: District Rule 1304.D.1*]

A.5 Payment of Fees.

The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6*]

A.6 Prompt Reporting of Deviations.

The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*. [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]

A.7 Reporting Requirements/Compliance Certification.

The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. A paper copy, as well as a complete PDF electronic copy of these reports, shall be in a format approved by the District. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Monitoring/Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [*Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c*]

A.8 Federally-Enforceable Conditions.

Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. [*Re: CAAA, § 502(b)(6), 40 CFR 70.6*]

A.9 Recordkeeping Requirements.

Records of required monitoring information shall include the following:

(a) The date, place as defined in the permit, and time of sampling or measurements;
(b) The date(s) analyses were performed;
(c) The company or entity that performed the analyses;
(d) The analytical techniques or methods used;
(e) The results of such analyses; and
(f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [*Re: District Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)*]

A.10 Conditions for Permit Reopening.

The permit shall be reopened and revised for cause under any of the following circumstances:

(a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more

years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

(b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

(c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists.

If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [*Re: 40 CFR 70.7, 40 CFR 70.6*]

A.11 Grounds for Revocation.
Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 *et seq*.

A.12 Consistency with Analysis.
Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

A.13 Severability.
In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

A.14 Compliance.
Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.

A.15 Conflict Between Permits.
The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.

9.B. Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

B.1 Circumvention (Rule 301).
A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [*Re: District Rule 301*]

B.2 Visible Emissions (Rule 302).
The permittee shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above. [*Re: District Rule 302*]

B.3 Nuisance (Rule 303).
No pollutant emissions from any source at the permittee shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. [*Re: District Rule 303*]

B.4 Specific Contaminants (Rule 309).
The permittee shall not discharge into the atmosphere from any single source sulfur compounds and combustion contaminants (particulate matter) in excess of the applicable standards listed in Sections A through E of Rule 309. [*Re: District Rule 309*].

B.5 Organic Solvents (Rule 317).
The permittee shall comply with the emission standards listed in Rule 317.B. Compliance with this condition shall be based on the permittee's compliance with Condition C.5 of this permit. [*Re: District Rule 317*]

B.6 Metal Surface Coating Thinner and Reducer (Rule 322).
The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on the permittee's compliance with Condition C.5 of this permit and facility inspections. [*Re: District Rule 322*]

B.7 Architectural Coatings (Rule 323.I).
The permittee shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on the permittee's compliance with Condition C.5 of this permit and facility inspections. [*Re: District Rules 323, 317, 322, 324*]

B.8 Disposal and Evaporation of Solvents (Rule 324).
The permittee shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on the permittee's compliance with Condition C.5 of this permit and facility inspections. [*Re: District Rule 324*]

B.9 Boilers, Water Heaters, and Process Heaters (0.075 – 2 MMBtu/hr) (Rule 360).
This rule applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of any new water heater, boiler, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 Btu/hour up to and including 2,000,000 Btu/hour. There are no new units at this facility that are subject to this rule.

B.10 Boilers, Steam Generators, and Process Heaters (Between 2 – 5 MMBtu/hr) (Rule 361).
The permittee shall comply with the requirements of District Rule 361: *Small Boilers, Steam Generators, and Process Heaters* whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced.

B.11 Emergency Episode Plans (Rule 603).
During emergency episodes, the permittee shall implement the Emergency Episode Plan dated March 30, 1999. [*Reference District Rule 603*]

B.12 Adhesives and Sealants (Rule 353).
The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:

(a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately

(b) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353. *[Re: District Rule 353]*

B.13 Oil and Natural Gas Production MACT.
The permittee shall comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage (promulgated June 17, 1999). At a minimum, the permittee shall maintain records in accordance with 40 CFR Part 63, Subpart A, Section 63.10 (b) (1) and (3). *[Re: 40 CFR 63, Subpart HH]*

B.14 CARB Registered Portable Equipment.
State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. [*Re: District Rule 202*]

9.C Requirements and Equipment Specific Conditions

This section contains non-generic federally-enforceable conditions, including emissions and operations limits, monitoring, recordkeeping and reporting for each specific equipment group. This section may also contain other non-generic conditions.

C.1 Fugitive Hydrocarbon Emissions Components.
The following equipment are included in this emissions unit category:

District No.	Equipment
CARB/KVB Components	
115024	Valves, Connections, pumps, wellheads, etc.
Component Leak Path Components	
001121	Oil/Gas Valves, Connections, pumps, etc.

(a) Emission Limits: Fugitive emission limits are not federally-enforceable.

(b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in District Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit. In addition, the permittee shall meet the following requirements:

(i) *VRS Use:* The vapor recovery system shall be connected to each piece of equipment identified in this permit as being connected to the vapor recovery system, and operating during production, processing, and storing of petroleum and petroleum related products. The vapor recovery system includes all associated piping, valves, and flanges. The vapor recovery system shall be maintained and operated in a manner such that the release of organic compounds from all systems, including pressure relief valves and gauge hatches, is minimized.

(ii) *I&M Program:* The District-approved I&M Plan shall be implemented for the life of the project. The Plan, and any subsequent District approved revisions, is incorporated by reference as an enforceable part of this permit. An updated Fugitive Emissions Inspection and Maintenance Plan must be submitted to the District for review and approval within one calendar quarter whenever there is a change in the component list or diagrams.

(iii) *Venting:* All routine venting of hydrocarbons shall be routed to either a sales compressor, flare header, injection well or other District-approved control device.

(iv) *Leak Path Count*: The component leak path count for the facility shall not exceed the permitted total by more than five percent. This five percent range is to allow for minor differences due to component counting methods and does not constitute allowable emissions growth due to the addition of new equipment

(c) Monitoring: The equipment listed in this section are subject to all the monitoring requirements listed in District Rule 331.F. The test methods in Rule 331.H shall be used, when applicable.

(d) Recordkeeping: All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section are subject to all the recordkeeping requirements listed in District Rule 331.G.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.
[*Re: District Rules 331 and 1303, 40 CFR 70.6*]

C.2 Petroleum Storage and Processing Tanks.
The following equipment is included in this emissions category:

Dev No	Equipment Name; Capacity
111318	Gage Tank - 1,000 bbl capacity
115021	Wash Tank - 1,500 bbl capacity
115052	Crude Oil Storage Tank 1 - 1,000 bbl capacity
115054	Crude Oil Storage Tank 2 - 1,000 bbl capacity
115051	Wastewater Tank - 2,000 bbl capacity

(a) Emission Limits: Mass emission for the tanks listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Limits:

(i) *Facility Throughput Limitations*. The Monterey formation oil production shall be limited to 625 barrels of (dry) oil per day. The permittee shall record in a log the volumes of oil produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month.

(ii) All process operations for the equipment listed in this section shall meet the requirements of District Rules 325, 343 and 344. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.

(iii) Pursuant to Rule 343, Sections D, E, F and G, the permittee shall use a control device, approved in advance by the District, when degassing or purging any stationary tanks, vessels, or containers which process odorous sulfur compounds. Except for emergency cases, the Control Officer shall be notified in writing at least two weeks prior to the start of the emptying operation for the purpose of degassing any above-ground tank subject to this rule

(iv) Wastewater Pumps (Device ID: 115035) listed under the Monterey Exempt Equipment list shall only transfer wastewater for injection into the wastewater wells. Any other use of these pumps is prohibited.

(b) Monitoring:

(i) The daily volumes of Monterey oil (bbls) produced from this facility shall be measured through the use of calibrated meters or through the use of a District-approved alternate method. The meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.

(ii) The equipment listed in this section shall be subject to all the monitoring requirements of District Rule 325.H. The test methods outlined in District Rule 325.G shall be used, when applicable. In addition, the permittee shall, for all degassing events, monitor the volume purged, characteristics of the vapor purged, and control device/method used.

(iii) On an annual basis, at the initial tank, or other storage tanks if requested in writing by the District, (1) the API gravity shall be measured and recorded, and (2) the true vapor pressure (TVP) at the maximum expected temperature of the crude oil shall be measured by using ASTM method D 323-82 (if API gravity is equal to or greater than 20 degrees) or the HOST Method (if API gravity is under 20 degrees), and recorded. Samples of crude oil shall be obtained from an active flow line into each tank, or from the tank, provided that there is an active flow of crude oil into the tank.

If ASTM D323 applies, the TVP at the maximum expected temperature shall be calculated from the Reid vapor pressure in accordance with API Bulletin 2518, or equivalent Reid/true vapor pressure correlation. The calculated true vapor pressure shall be based on the maximum expected operating temperature of the initial crude oil storage tank.

(iv) The high heating value (HHV) of the Monterey produced gas (Btu/scf) shall be measured annually in accordance with ASTM D-3588 or a District-approved method. Records shall be kept on site and made available for inspection by the District upon request.

(d) Recordkeeping: The following records shall be maintained by the permittee and shall be made available to the District upon request

(i) The total volume (in bbls) of Monterey oil produced each month and each calendar year, and the number of days each month that oil was produced.

(ii) On an annual basis, the API gravity and true vapor pressure, and the temperature at which these measurements were taken.

(iii) The equipment listed in this section is subject to all the recordkeeping requirements listed in District Rule 325.F. In addition, the permittee shall maintain a log of all degassing events in accordance Rule 343.F.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.
[*Re: 40 CFR 70.6, District Rules 206, 325, 343 and 1303*]

C.3 Open Pipe Flare.

The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
393535	23.375 MMBtu/hr Open Pipe Flare

(a) Emission Limits: Mass emissions shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Limits and Restrictions:

(i) *Heat Input Limits*. The hourly, daily and annual heat input limits to the flare shall not exceed the values listed below. These limits are based on the design rating of the burner and the annual heat input value as listed in the permit application. Unless otherwise designated by the District, the following fuel heat content shall be used for determining compliance:

Produced Gas = 1,122 Btu/scf

Hourly Heat Input	23.375 MMBtu/hour
Daily Heat Input	561.000 MMBtu/day
Annual Heat Input	16,830.000 MMBtu/year

(ii) The open pipe flare outlet shall be equipped with an automatic ignition system including a pilot-light gas source or equivalent system, or shall operate with a pilot flame present at all times - with the exception of purge periods for automatic-ignition equipped flares or thermal oxidizers.

(iii) The flame shall be operating at all times when combustible gases are vented through the open pipe flare.

(iv) The pilot and flare shall only operate on produced gas.

(v) The open pipe flare shall only be operational at times when Thermal Oxidizer 1 is non-operational due to repair or maintenance. Thermal Oxidizer 1 and the open pipe flare shall not operate simultaneously.

(c) Monitoring: The following monitoring requirements shall apply:

(i) The presence of the flame in the open pipe flare pilot shall be continuously monitored using a thermocouple or an equivalent device that detects the presence of a flame.

(ii) The open pipe flare shall be equipped with dedicated District-approved electronic flow meter that will monitor and continuously record the daily and annual volume (scf) of produced gas combusted in the unit. The fuel meter shall be non-resettable, totalizing, and temperature and pressure corrected. The fuel meter shall be accurate to within five percent (5%) of the full-scale reading. The fuel

meters shall be calibrated at least every 12 months in accordance with the fuel meter manufacturer's recommendations and written procedures.

(d) Recordkeeping: The permittee shall record the following:

(i) The volume (scf) of produced gas combusted each day and year in the open pipe flare.

(ii) Thermal Oxidizer maintenance and repair activities correlated to open pipe flare usage.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.
[*Re: 40 CFR 70.6, District Rules 325, 343, 344 and 1303.D.1.f*]

C.4 Well Cellars.

The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
115023	Well Cellars (21)

(a) Emission Limits: Well cellar emissions are not federally-enforceable.

(b) Operational Limits: All process operations from the equipment listed in this section shall meet the requirements of District Rule 344. Rule 344.D.3 requires that:

(i) A person shall not open any valve at the wellhead without using a portable container to catch and contain any organic liquid that would otherwise drop on the ground or into the well cellar. Such container shall be kept closed when not in use.

(ii) Immediately before a well is steamed or after a well head is steam cleaned, the well cellar in which it is located shall be pumped out.

(iii) Neither of the following conditions shall occur unless the owner or operator discovered the condition and the well cellar is pumped within 7 days of discovery:

a. liquid depth exceeding 50-percent of the depth of the well cellar.

b. oil/petroleum depth exceeding 2 inches.

If a well cellar cannot be accessed by a vacuum truck due to muddy conditions, the well cellar shall be pumped as soon as it becomes accessible.

(c) Monitoring: The permittee shall inspect the well cellars on a weekly basis to ensure that the liquid depth and the oil/petroleum depth does not exceed the limits in Rule 344.D.3.c.

(d) Recordkeeping: The following information relating to detection of conditions requiring pumping of a well cellar as required in Rule 344.D.3.c shall be recorded for each detection:

(i) the date of the detection,

(ii) the name of the person and company performing the test or inspection, and

(iii) the date and time the well cellar is pumped.

(e) Reporting: None.

(*Re: District Rules 344.D.3 and 344.G.2)*

C.5 Loading Rack – Monterey.

The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
115025	Loading Rack

(a) Emission Limitations. Mass emissions shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:

(i) *Throughput Limitation.* The following throughput limitations shall not be exceeded:

Monterey Daily Truck Loading[(i)]	1,000	bbls/day
Monterey Annual Truck Loading[(ii)]	228,125	bbls/year

[(i)] Compliance based on daily operator logs.
[(ii)] Compliance based on total annual throughput trucked from the facility as maintained by daily logs.

(ii) *Oil Loading Rack Operation*. The loading rack used to ship oil from the facility shall use bottom-loading and a vapor recovery system that prevents the vapors displaced during loading from being released into the atmosphere. Emissions from truck loading operations shall be vented to the gas gathering system and the operator shall use either a block and bleed valve system or other connectors with equivalent spill prevention characteristics.

Additionally, the operator shall use one of the following devices to prevent overfill:

a. A primary overfill protection system consisting of a preset fill meter with automatic flow shutoff and a secondary overfill protection system consisting of a liquid level sensor with the ability to signal high level to activate a control valve to shut off flow, or

b. A combination of overfill devices and/or procedures, submitted in writing to the Control Officer, that is at least as effective in preventing overfill spillage as the system described immediately above. District written approval must be obtained prior to implementing this option.

(c) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:

(i) The volume (bbls) of Monterey oil shipped from the crude loading rack each day and totaled for the year.

(ii) In accordance with the applicable repair timelines for liquid leaks specified in Rule 331 and Rule 346, any leaks found at the loading rack as a result of the inspection required by Rule 331, shall be repaired and recorded immediately.

(d) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.6 Emergency Generator.

The following equipment is included in this emissions unit category:

Dev No	Equipment Name; Capacity, Size
115070	Emergency Backup Generator; 490 Bhp

(a) Emission Limits. The mass emissions from the equipment permitted herein shall not exceed the values listed in Tables 5.3 and 5.4. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

(b) Operational Restrictions. The equipment permitted herein is subject to the following operational restrictions. The equipment may operate as many hours as necessary for emergency use, as defined in the ATCM[6].

[6] As used in the permit, "ATCM" means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

(i) *Maintenance & Testing Use Limit*. The stationary emergency standby diesel-fueled engine(s), except for in-use firewater pump engines, shall not be operated for more than the hours listed in the attached equipment list for maintenance and testing[7] purposes.

(ii) *Impending Rotating Outage Use*. The stationary emergency standby diesel-fueled engine(s) may be operated in response to the notification of an impending rotating outage if all the conditions cited in the ATCM are met.

(iii) *Fuel and Fuel Additive Requirements*. The permittee may only add fuel and/or fuel additives that comply with the ATCM to the engine or to any fuel tank directly attached.

(c) Monitoring. The equipment permitted herein is subject to the following monitoring requirements:

(i) *Non-Resettable Hour Meter*. Each stationary emergency standby diesel-fueled engine(s) shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.

(d) Recordkeeping. The permittee shall record and maintain the information listed below. Log entries shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. Log entries made from 25 to 36 months from most recent entry shall be made available to District staff within 5 working days from request. District Form ENF-92 (*Diesel-Fired Emergency Standby Engine Recordkeeping Form*) can be used for this requirement.

(i) emergency use hours of operation.

(ii) maintenance and testing hours of operation.

(iii) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit}.

(iv) hours of operation for all uses other than those specified in items (i) - (iii) above along with a description of what those hours were for.

(v) fuel purchase records that demonstrate that only fuel meeting the requirements of the ATCM is purchased and added to the emergency standby engine, or to any fuel tank directly attached to the emergency standby engine.

(e) Reporting. On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.7 Solvent Usage.
The following items are included in this emissions unit category: Photochemically reactive solvents, surface coatings and general solvents.

(a) Emission Limits: The following solvent emission limits are federally-enforceable for the entire stationary source:

Solvent Type	lbs/hour	lbs/day
Photochemically Reactive	8 lbs/hour	40 lbs/day
Non-Photochemically Reactive	450 lbs/hour	3,000 lbs/day

(b) Operational Limits: Use of solvents for cleaning/degreasing shall conform to the requirements of District Rules 317, 322, 323 and 324. Compliance with these rules shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit and facility inspections.

(i) *Reclamation Plan*: The permittee may submit a Plan to the District for the disposal of any reclaimed solvent. If the Plan is approved by the District, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. The permittee shall obtain District approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.

(c) Monitoring: None.

(d) Recordkeeping: The permittee shall record in a log the following on a monthly basis for each coating and solvent used: amount used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed for District-approved disposal; whether the solvent is photochemically reactive; and, the resulting emissions to the atmosphere in units of pounds per month and pounds per day. Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a manner readily accessible to District inspection.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.8 Monterey Gas Hydrogen Sulfide Removal System.
The following provisions shall apply to this system:

(e) The following operating requirements shall apply:

(i) All Monterey produced gas to be combusted at the facility shall be treated by the Monterey hydrogen sulfide removal system. Except during media changeout and system maintenance, the Monterey produced gas sulfur removal system shall be operated in a "lead/lag" configuration at all times, i.e., treatment of gas through

[7] "maintenance and testing" is defined in the ATCM and may also be found on the District webpage at http://www.ourair.org/wp-content/uploads/ES_MT_DICE_Definitions.pdf

the first vessel followed by treatment through the second vessel (in series).

(ii) Media changeout for the permanent lead vessel (Device ID: 114494) shall occur within three calendar days of when an H_2S reading equals or exceeds 45 ppmv at the outlet of the permanent lag vessel.

(iii) Media changeout for the permanent lag vessel (Device ID: 114493) shall occur within three calendar days of when the permanent lag vessel inlet and outlet H_2S readings indicate that the permanent lag vessel is capturing less than 10 percent by weight of the inlet H_2S or when an H_2S reading equals or exceeds 45 ppmv at the outlet of the permanent lag vessel, whichever comes first.

(iv) In the event that both the permanent lead vessel (Device ID: 114494) and permanent lag vessel (Device ID: 114493) trigger the media change out requirements at the same time, the permanent lead vessel media shall be changed out first, followed by the media changeout of the permanent lag vessel.

(f) The following monitoring requirements shall apply:

(i) Measure the H_2S content of the Monterey fuel gas on a weekly basis using colorimetric detection tubes, or a District-approved equivalent, at sampling ports located between the vessels and at the outlet of the permanent lag vessel.

(ii) During lead or lag vessel media changeout, the permittee shall measure the H_2S content of the Monterey fuel gas on a daily basis using colorimetric detection tubes or a District-approved equivalent.

(iii) If the colorimetric detection tube measurement indicate a Monterey gas H_2S content greater than 45 ppmv at the outlet of the permanent Monterey lag vessel, the permittee shall measure the total sulfur content (as H_2S) of the Monterey gaseous fuel within one week of the colorimetric detection tube measurement in accordance with ASTM-D1072 or a District approved equivalent method.

(iv) The permittee may change the type of media being used in the hydrogen sulfide vessels without first obtaining District approval if the following requirements are met:

a. During lead or lag vessel media changeout using a different media type than what was previously approved, the permittee shall measure the H_2S content of the Monterey fuel gas within 3 hours of resuming operations after a media type change using colorimetric detection tubes or a District-approved equivalent.

b. Within 7 days of making a media type change on the lead or lag vessel, the permittee shall submit a written notification to the District (engr@sbcapcd.org) which includes the following information:

i. Name and description of the previously used media.
ii. Name and description of the new media.
iii. Alternative hydrogen sulfide media Material Safety Data Sheet (MSDS).

iv. Reason(s) for the change in media.

(v) Dates of media changeout for each Monterey hydrogen sulfide removal vessel.

(vi) Records shall be kept on site and made available for inspection by the District upon request.

C.9 Requirements for Produced Gas.

The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

C.10 Semi-Annual Monitoring/Compliance Verification Reports.

The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

(a) Rule 331 fugitive hydrocarbon I&M program data:

- inspection summary.
- record of leaking components.
- record of leaks from critical components.
- record of leaks from components that incur five repair actions within a continuous 12-month period.
- record of component repair actions including dates of component re-inspections.

(b) *Emergency Generator*.

- emergency use hours of operation
- maintenance and testing hours of operation.
- hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit}.
- hours of operation for all uses other than those specified in items (a) – (c) above along with a description of what those hours were for.

- fuel purchase records that demonstrate that only fuel meeting the requirements of the ATCM is purchased and added to each emergency standby engine, or to any fuel tank directly attached to each emergency standby engine.

(c) *Surface Coating and Solvent Usage*: Monthly logs of the amount of surface coating/solvent used; the percentage of ROC by weight (as applied); the surface coating/solvent density; the amount of solvent reclaimed; whether the surface coating/solvent is photochemically reactive; and, the resulting emissions of ROC and photochemically reactive surface coatings/solvents to the atmosphere in units of pounds per month.

(d) The volume (bbls) of Monterey oil produced each day and totaled for the year.

(e) The annual lab reports for the measurements of the API gravity, true vapor pressure and storage temperature of the Monterey oil.

(f) The annual lab reports of the higher heating value (Btu/scf) of the Monterey fuel gas.

(g) The results of the weekly colorimetric detection tube readings of the Monterey fuel gas H_2S concentration.

(h) The results of the daily colorimetric detection tube readings of the Monterey fuel gas H_2S concentration during media changeouts.

(i) Dates of media changeout for each Monterey hydrogen sulfide removal vessel.

(j) The volume (bbls) of Monterey oil shipped from the crude loading rack each day and totaled for the year.

(k) The volume (scf) of produced gas combusted each day and year in the open pipe flare.

(l) Thermal Oxidizer 1 maintenance and repair activities correlated to open pipe flare usage.

(m) Records required by the District Rules 325.F, 331.G, 342.I, 343.G, 344.G, 346.G and 359.G.

(n) Annual NOx and ROC emissions from both permitted and exempt equipment.

C.11 Monterey Gaseous Fuel Sulfur Limit.
The total sulfur content (calculated as H_2S at standard conditions, 60 °F and 14.7 psia) of the Monterey gaseous fuel combusted at the facility shall not exceed 50 ppmv (as H_2S).

C.12 Crude Oil Sampling.
Samples of crude oil shall be obtained from an active flow line into each tank, or from the tank, provided that there is an active flow of crude oil into the tank.

C.13 Compliance with Rule 346.
Equipment shall not be used to transfer organic liquids into any organic liquid cargo vessel unless the equipment is in full compliance with District Rule 346.

C.14 External Combustion Units - Permits Required.

(1) An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.

(2) An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr.

An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane.

C.15 Operational Increment Fee.
The Permittee shall pay increment fees on the following schedule:

July 1, 2024	$ 3,449
July 1, 2025	$ 1,725

C.16 Documents Incorporated by Reference.
The documents listed below, including any District-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this operating permit. These documents shall be implemented for the life of the project and shall be made available to District inspection staff upon request.

(a) *Fugitive Inspection and Maintenance Plan* (approved December 4, 2012)

(b) *Truck Loading Procedures (Revision #2) - District Rule 346* (approved August 4, 2004)

(c) *Tank Degassing Plan* (approved June 23, 2014)

(d) *Vapor Recovery Compressor Inspection and Maintenance Plan* (approved December 4, 2012)

(e) *Process Monitor Calibration and Maintenance Plan* (approved October 23, 2017)

(f) *Odor Minimization Plan* (approved June 23, 2014*)*

C.17 Emission Offsets.
PCEC shall offset all oxides of nitrogen (NO_x) and reactive organic compound (ROC) emissions pursuant to Tables 7.3(a) and 7.3(b) of this permit. Emission reduction credits (ERCs) sufficient to offset the permitted quarterly NO_x and ROC emissions shall be in place for the life of the project.

9.D District-Only Conditions

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the District and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of

District Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

D.1 Condition Acceptance.
Acceptance of this operating permit by the permittee shall be considered as acceptance of all terms, conditions, and limits of this permit.

D.2 Facility Throughput Limitations.
The permittee shall record in a log the volumes of oil produced and the actual number of days in production per month.

D.3 Abrasive Blasting Equipment.
All abrasive blasting activities performed on the Careaga Lease shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.

D.4 Process Stream Sampling and Analysis.
The permittee shall sample analyze the process streams listed in Section 4.9 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to District approved ASTM methods and must follow traceable chain of custody procedures.

D.5 Annual Compliance Verification Reports.
The permittee shall submit a report to the District, by March 1 of each year containing the information listed below and shall document compliance with all applicable permit requirements. A paper copy, as well as a complete PDF electronic copy of these reports shall be in a format approved by the District. These reports shall be in a format approved by the District. All logs and other basic source data not included in the report shall be available to the District upon request. Pursuant to Rule 212, the annual report shall include a completed *District Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the District website. The report shall include the following information:

(a) API gravity, true vapor pressure and storage temperature of the oil.

(b) Oil processed through the tank battery along with the number of days per month of production.

(c) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.

(d) The ROC and NO_X emissions from all permit exempt activities (tons per year by device/activity).

(e) The annual emission totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

D.6 Mass Emission Limitations.
Mass emissions for each equipment item (i.e., emissions unit) shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the entire facility shall not exceed the total limits listed in Table 5.2.

D.7 Equipment Maintenance.
The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.

D.8 Equipment Identification.
Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be affixed to the equipment in a permanent and conspicuous position

D.9 Transfer of Owner/Operator.
This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form –01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.

D.10 Emission Factor Revisions.
The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors.

D.11 Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities.
The equipment permitted herein shall be operated in compliance with the California Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities regulation (CCR Title 17, Section 95665 *et. Seq*.).

D.12 CARB GHG Regulation Recordkeeping.
The permittee shall maintain at least 5 years of records that document the following:

(a) The number of crude oil or natural gas wells at the facility.

(b) A list identifying all pressure vessels, tanks, separators, sumps, and ponds at the facility, including the size of each tank and separator in units of barrels.

(c) The annual crude oil, natural gas, and produced water throughput of the facility.

(d) A list identifying all reciprocating and centrifugal natural gas compressors at the facility.

(e) A count of all natural gas powered pneumatic devices and pumps at the facility.

(f) A copy of the *Best Practices Management Plan* designed to limit methane emissions from circulation tanks, if applicable.

D.13 CARB GHG Regulation Reporting.
On an annual basis, the permittee shall report all throughput data and any updates to the information recorded pursuant to the *CARB GHG Regulation Recordkeeping* Condition above using District Annual Report Form ENF-108. This report shall be submitted by March 1 of each year detailing the previous year's activities.

D.14 Temporary Engine Replacements - DICE ATCM.
Any reciprocating internal combustion engine subject to this permit and the stationary diesel ATCM may be temporarily replaced only if the requirements (a - h) listed herein are satisfied.

(a) The permitted engine that is being temporarily replaced is in need of routine repair or maintenance.

(b) The permitted engine does not have a cracked block, unless the block will be replaced under manufacturer's warranty.

(c) Replacement parts are available for the permitted engine.

(d) The permitted engine is returned to its original service within 180 days of installation of the temporary engine.

(e) The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine. At the written request of the permittee, the District may approve a replacement engine with a larger rated horsepower if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.

(f) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine.

(g) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

(h) Within 14 days of returning the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

Any engine in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met. If the requirements of this condition are not met, the permittee must obtain an ATC before installing or operating a temporary replacement engine.

D.15 Permanent Engine Replacements.
The permittee may install a new engine in place of an engine permitted herein without first obtaining an ATC only if the requirements (a – f) listed herein are satisfied.

(a) The permitted stationary diesel-fueled engine is an E/S engine, a firewater pump engine or an engine used for an essential public service (as defined by the District).

(b) The permitted engine breaks down, cannot be repaired, and needs to be replaced by a new permanent engine.

(c) The facility provides "good cause" (in writing) for the need to install a new permanent engine before an ATC can be obtained for a new engine.

(d) The new permanent engine must comply with the requirements of the ATCM for new engines. A temporary replacement engine may be used while the new permanent engine is being procured only if it meets the requirements of the *Temporary Engine Replacements - DICE ATCM* permit condition.

(e) An ATC application for the new permanent engine must be submitted to the District within 15 days of the existing engine being replaced and the ATC must be obtained no later than 180 days from the date of engine replacement (these timelines include the use of a temporary engine).

(f) For each new permanent engine installed pursuant to this condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification* form (Form ENF-96) within 14 days of the new engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

(g) Any engine installed pursuant to this condition shall be immediately shut down if the District determines that the requirements of this condition have not been met.

D.16 Notification of Non-Compliance.
Owners or operators who have determined that they are operating their stationary diesel-fueled CI engine(s) in violation of the requirements specified in the ATCM shall notify the District immediately upon detection of the violation and shall be subject to District enforcement action.

D.17 Notification of Loss of Exemption.
Owners or operators of in-use stationary diesel-fueled CI engines who are exempt from all or part of the requirements of the ATCM shall notify the District within five days after they become aware that the exemption no longer applies and shall demonstrate compliance within 180 days after the date the exemption no longer applies.

D.18 Enrollment in a DRP/ISC.
Owners or operators shall obtain an ATC before enrolling a stationary diesel-fueled CI engine rated over 50 bhp in a Demand Response Program/Interruptible Service Contract (as defined in the ATCM) for the first time.

Air Pollution Control Officer

_____

_____

Date

NOTES:

(a) This permit supersedes PTO 8896-R12 and PTO 13257- R4

(b) Permit Renewal Due Date: July 1, 2028

10.0 Attachments

10.1 Emission Calculation Documentation

10.2 Emission Calculation Spreadsheets

10.3 Monterey Well List

10.1 EMISSION CALCULATION DOCUMENTATION – CAREAGA LEASE

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. Detailed calculation spreadsheets are attached as Attachment 10.2. The letters A - D refer to Tables 5.1-1 and 5.1-2.

Reference A - Petroleum Storage Tanks

→ The hourly/daily/annual emissions for the petroleum storage tanks is based on USEPA AP-42 Chapter 7, Liquid Storage Tanks (5th Edition, 2/96)

Reference B - Pits, Sumps and Wastewater Tank

→ The maximum operating schedule is in units of hours;

→ Emission calculation methodology based on the CARB/KVB report *Emission Characteristics of Crude Oil Production Operations in California (1/83)*;

→ Calculations are based on surface area of emissions noted in the inspector's report;

→ All separator units are classified as secondary production and heavy oil service;

→ The THC Speciation is based on CARB profiles # 529, 530, 531, 532; the ROC/TOC ratio is based on the District's guideline *"VOC/ROC Emission Factors and Reactivities for Common Source Types"* Table dated 07/13/98 (version 1.1).

Reference C - Components Emitting Fugitive ROCs

→ Emission factors are based on the *District P&P 6100.060* guidelines and *District P&P 6100.061 guidelines.*

→ In determining the facility model using the CARB/KVB methodology for fugitive emissions, a default Gas Oil Ratio of 501 scf/bbl was used. This value assumes the worst case model.

→ An 80% reduction in fugitive emissions was assumed due to the implementation of a fugitive inspection and maintenance plan pursuant to Rule 331.

Reference D - Open-Pipe Flare

→ NOx and CO emission factors based on AP-42 Table 13.5-1. ROC emission factor based on APCD February 2016 Flare Study. PM/PM10 emission factors based on AP-42 Chapter 1.4.

→ Flare is subject to requirements of APCD Rule 359.

Reference E - Emergency Generator

E1, lb/day = Engine Rating (bhp) * EF (g/bhp-hr) * Daily Hours (hr/day) * (lb/453.6 g)
E2, tpy = Engine Rating (bhp) * EF (g/bhp-hr) * Annual Hours (hr/yr) * (lb/453.6 g) * (ton/2000 lb)

The emission factors (EF) were chosen based on each engine's rating and age. Unless engine specific data was provided, default emission factors are used as documented on the District's webpage at http://www.ourair.org/dice/emission-factors/. Daily hours are assumed to be 2 hrs/day (re: ATCM FAQ Ver 1.5 #32) unless otherwise requested by the applicant.

Reference E - Loading Rack

Calculations based on District Loading Rack Emission Calculation Spreadsheet (ver3.0).

Reference F - Solvents

→ All solvents not used to thin surface coatings are included in this equipment category.

10.2 Emission Calculation Spreadsheets

MONTEREY CRUDE TANK 1 EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-1
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.55	Permit Application
If TVP is entered, enter TVP temperature (°F)	68	Permit Application
Is the tank heated (Yes or No)?	No	Permit Application
If tank is heated, enter temperature (°F)	N/A	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	No	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	16	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	8	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	625	Permit Application
Maximum Annual Throughput (gallons)	9.581E+06	Calculated Value
RVP (psi)	2.78902	RVP Matrix
API Gravity (°)	23	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	3.10	0.56	0.15	0.03
Working Losses	9.48	1.73	0.47	0.09
Flashing Losses	0.00	0.00	0.00	0.00
Total	**12.58**	**2.29**	**0.63**	**0.11**

Processed By: JJM Date: 2/2/2023

MONTEREY CRUDE TANK 2 EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-2
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.55	Permit Application
If TVP is entered, enter TVP temperature (°F)	68	Permit Application
Is the tank heated (Yes or No)?	No	Permit Application
If tank is heated, enter temperature (°F)	N/A	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	No	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	16	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	8	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	625	Permit Application
Maximum Annual Throughput (gallons)	9.581E+06	Calculated Value
RVP (psi)	2.78902	RVP Matrix
API Gravity (°)	24.8	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	3.10	0.56	0.15	0.03
Working Losses	9.48	1.73	0.47	0.09
Flashing Losses	0.00	0.00	0.00	0.00
Total	**12.58**	**2.29**	**0.63**	**0.11**

Processed By: JJM Date: 2/2/2023

MONTEREY WASH TANK EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-3
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.55	Permit Application
If TVP is entered, enter TVP temperature (°F)	68	Permit Application
Is the tank heated (Yes or No)?	No	Permit Application
If tank is heated, enter temperature (°F)	N/A	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	Yes	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,500	Permit Application
Capacity (gallons)	63,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	24	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	23	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	625	Permit Application
Maximum Annual Throughput (gallons)	9.581E+06	Calculated Value
RVP (psi)	2.78902	RVP Matrix
API Gravity (°)	24.8	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	0.73	0.13	0.04	0.01
Working Losses	0.00	0.00	0.00	0.00
Flashing Losses	0.00	0.00	0.00	0.00
Total	**0.73**	**0.13**	**0.04**	**0.01**

Processed By: JJM Date: 2/2/2023

MONTEREY GAUGE TANK EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-4
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.945	Permit Application
If TVP is entered, enter TVP temperature (°F)	60	Permit Application
Is the tank heated (Yes or No)?	No	Permit Application
If tank is heated, enter temperature (°F)	N/A	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	No	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	16	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	8	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	100	Permit Application
Maximum Annual Throughput (gallons)	1.533E+06	Calculated Value
RVP (psi)	3.73976	RVP Matrix
API Gravity (°)	27	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	4.59	0.84	0.23	0.04
Working Losses	7.41	1.35	0.37	0.07
Flashing Losses	0.00	0.00	0.00	0.00
Total	**12.00**	**2.19**	**0.60**	**0.11**

Processed By: JJM Date: 2/2/2023

MONTEREY FUGITIVE HYDROCARBON EMISSION CALCULATIONS - CARB/KVB METHOD (Ver. 6.0)

Attachment: A-5
Permit Number: Reeval 8896-R12
Facility: Careaga Lease

Input Data

Facility Information	*Value*	*Units*	*Reference*
Number of Active Wells at Facility	73	wells	Permit Application
Facility Gas Production	0	scf/day	Permit Application
Facility Dry Oil Production	0	bbls/day	Permit Application
Facility Gas to Oil Ratio (if > 500 then default to 501)	501	scf/bbl	Permit Application
API Gravity	23	degrees API	Permit Application
Facility Model Number	6	dimensionless	User Input
No. of Steam Drive Wells with Control Vents	0	wells	Permit Application
No. of Steam Drive Wells with Uncontrolled Vents	0	wells	Permit Application
No. of Cyclic Steam Drive Wells with Control Vents	0	wells	Permit Application
No. of Cyclic Steam Drive Wells with Uncontrolled Vents	0	wells	Permit Application
Composite Valve and Fitting Emission Factor	4.2085	lb/day-well	Table Below

Emission Factor Based on Lease Model

Lease Model	Valve Without Ethane	Fitting Without Ethane	Composite Without Ethane	Units
1	1.4921	0.9947	2.4868	lbs/day-well
2	0.6999	0.6092	1.3091	lbs/day-well
3	0.0217	0.0673	0.0890	lbs/day-well
4	4.5090	2.1319	6.6409	lbs/day-well
5	0.8628	1.9424	2.8053	lbs/day-well
6	1.7079	2.5006	4.2085	lbs/day-well

Model #1: Number of wells on lease is less than 10 and the GOR is less than 500.
Model #2: Number of wells on lease is between 10 and 50 and the GOR is less than 500.
Model #3: Number of wells on lease is greater than 50 and the GOR is less than 500.
Model #4: Number of wells on lease is less than 10 and the GOR is greater than 500.
Model #5: Number of wells on lease is between 10 and 50 and the GOR is greater than 500.
Model #6: Number of wells on lease is greater than 50 and the GOR is greater than 500.

Reference: CARB speciation profiles numbers 529, 530, 531, 532

CARB KVB ROC Potential to Emit

Emission Source	lb/day	TPY
Valves and Fittings[a]	61.44	11.21
Sumps, Wastewater Tanks and Well Cellars[b]	21.10	3.85
Oil/Water Separators[b]	0.00	0.00
Pumps/Compressors/Well Heads[a]	1.19	0.22
Enhanced Oil Recovery Fields	0.00	0.00
Total ROC Potential to Emit [c]	**83.73**	**15.28**

Notes:

a. Emissions amount reflect an 80% reduction due to Rule 331 implementation.
b. Emissions reflect control efficiencies where applicable.
c. Due to rounding, the totals may not appear correct

Unit Type Emission Calculations

Pumps, Compressors, and Well Heads Uncontrolled Emission Calculations

	Value	Units	Reference
Number of Wells	73	wells	Permit Application
Wellhead Emissions	0.7081	lb-ROC/day	Calculated Value
FHC from Pumps	0.2847	lb-ROC/day	Calculated Value
FHC from Compressors	4.9567	lb-ROC/day	Calculated Value
Total ROC Emissions	**5.95**	lb-ROC/day	Calculated Value

Well Cellars, Sumps, Covered Wastewater Tanks, and Oil/Water Separators

Separation Level	Heavy Oil Service	Light Oil Service	Units
Primary	0.0941	0.1380	lb ROC/ft^2-day
Secondary	0.0126	0.0180	lb ROC/ft^2-day
Tertiary	0.0058	0.0087	lb ROC/ft^2-day

WELL CELLARS			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Well Cellars[(a)]	21	732	20.66		
				0.00	
					0.00
Daily ROC Emissions (lb/day)			**20.66**	**0.00**	**0.00**

Notes:

a. A 70% reduction is applied for implementation of Rule 344 (Sumps, Pits, and Well Cellars).

COVERED WASTEWATER TANKS			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Covered Wastewater Tank[(a)]	0	0	0.00		
	0	0		0.00	
	0	0			0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.00**	**0.00**

Notes:

a. A 85% reduction is applied.

COVERED WASTEWATER TANK WITH VAPOR RECOVERY			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Covered Wastewater Tank with Vapor Recovery[(a)]	0	0	0.00		
	1	692		0.44	
	0	0			0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.44**	**0.00**

Notes:

a. A 95% reduction is applied.

OIL AND WATER SEPARATORS		Type		
Equipment Type	**Total Throughput (MMgal)**	**Covered**	**Vapor Recovery**	**Open Top**
Oil and Water Separators [(a)(b)]	0	0.00		
	0		0.00	
	0			0.00
Daily ROC Emissions (lb/day)		**0.00**	**0.00**	**0.00**

Notes:

a. A 85% reduction is applied for covered, 85% for connected to vapor recovery, and 0% for open top.

b. Emission Factor of 560 lb-ROC/Mmgal

Processed By: JJM Date: 2/2/2023

MONTEREY FUGITIVE HYDROCARBON EMISSION CALCULATIONS - CLP METHOD (Ver. 3.0)

Attachment: A-6
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Facility Information

Facility Type (Enter X Where Appropriate)
Production Field X Gas Processing Plant ____ Refinery ____ Offshore Platform ____

Gas/Condensate Service Component

Component Type	Component Count	THC Emission Factor (lb/day-clp)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[b,c]	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Valves - Accessible/Inaccessible	72	0.295	0.31	6.58	0.80	0.05	1.32	0.06	0.24
Valves - Unsafe	0	0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows	0	0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv	0	0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A	0	0.295	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B	0	0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C	0	0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D	0	0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E	0	0.295	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F	9	0.295	0.31	0.82	0.90	0.00	0.08	0.00	0.02
Valves - Category G	0	0.295	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	217	0.070	0.31	4.71	0.80	0.04	0.94	0.04	0.17
Flanges/Connections - Unsafe	0	0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A	0	0.070	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B	0	0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C	0	0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D	0	0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E	0	0.070	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F	8	0.070	0.31	0.17	0.90	0.00	0.02	0.00	0.00
Flanges/Connections - Category G	0	0.070	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Compressor Seals - To Atm	0	2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS	2	2.143	0.31	1.33	1.00	0.00	0.00	0.00	0.00
PSV - To Atm/Flare	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS	4	6.670	0.31	8.27	1.00	0.00	0.00	0.00	0.00
Pump Seals - Single	1	1.123	0.31	0.35	0.80	0.00	0.07	0.00	0.01
Pump Seals - Dual/Tandem	0	1.123	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Gas Condensate Subtotals	**314**			**24.31**		**0.12**	**2.84**	**0.13**	**0.52**

Oil Service Components

Component Type	Component Count	THC Emission Factor (lb/day-clp)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[b,c]	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Valves - Accessible/Inaccessible	22	0.004	0.56	0.05	0.80	0.00	0.01	0.00	0.00
Valves - Unsafe	0	0.004	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows	0	0.004	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv	0	0.004	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A	0	0.004	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B	0	0.004	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C	0	0.004	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D	0	0.004	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E	0	0.004	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F	0	0.004	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Category G	0	0.004	0.56	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	65	0.002	0.56	0.07	0.80	0.00	0.01	0.00	0.00
Flanges/Connections - Unsafe	0	0.002	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A	0	0.002	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B	0	0.002	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C	0	0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D	0	0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E	0	0.002	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F	0	0.002	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges/Connections - Category G	0	0.002	0.56	0.00	0.92	0.00	0.00	0.00	0.00
PSV - To Atm/Flare	0	0.267	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS	0	0.267	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Pump Seals - Single	0	0.004	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - Dual/Tandem	0	0.004	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Oil Subtotals	87			0.12		0.00	0.02	0.00	0.00

Total	**401**			**24.43**		**0.12**	**2.87**	**0.13**	**0.52**

Notes:
a. District Policy and Procedure 6100.061.1998.
b. A 80% efficiency is assigned to fugitive components Rule 331 implementation.
c. Emission control efficiencies for each component type are identified in FHC Control Factors (Ver. 2.0).

Processed By: JJM Date: 2/2/2023

CRUDE OIL LOADING RACK EMISSION CALCULATIONS (Ver. 4.2)

Attachment: A-7-1 Monterey Crude Loading Rack Emissions
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Rack Information

Rack Type	*Enter X Where Appropriate*	*S Factor*
Submerged Loading of a Clean Cargo Tank		0.50
Submerged Loading: Dedicated Normal Service	X	0.60
Submerged Loading: Dedicated Vapor Balance Service		1.00
Splash Loading of a Clean Cargo Tank		1.45
Splash Loading: Dedicated Normal Service		1.45
Splash Loading: Dedicated Vapor Balance Service		1.00

Input Data

Input data	*Value*	*Reference*
Saturation Factor	0.60	Previous Input, AP-42 Table 4.4-1
Molecular Weight	50	SBCAPCD Default for Crude Oil
True Vapor Pressure (psia)	1.000	Permit Application
Liquid Temperature (°F)	100	Permit Application
Loading Rate (bbl/hr)	160.00	Permit Application
Storage Capacity (bbl)	1,000	Permit Application
Daily Production (bbl)	625	Permit Application
Annual Production (bbl)	228,125	Permit Application
Vapor Recovery Efficiency	0.95	SBCAPCD
ROC/THC Reactivity	0.885	SBCAPCD Default for Crude Oil

Loading Rate Calculations

Calculated Information	*Value*	*Reference*
Daily Hours Loading (hours)	6.25	Calculated Value
Annual Hours Loading (hours)	1,425.78	Calculated Value
Loading Loss (lb / 1,000 gals)	0.6675	Calculated Value

Crude Oil Loading Rack ROC Potential to Emit

Controlled Potential to Emit	
lb/day	**1.24**
TPY	**0.14**

Processed By: WSS Date: 8/13/2024

SHARED OILFIELD FLARE EMISSION CALCULATIONS (Ver. 2.0)

Attachment: A-8
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Fuel Information

Data	*Value*	*Units*	*Reference*
Flare Throughput.....	0.500	MMscf/day	Permit Application
Gas Heat Content.....	1,122	Btu/scf	Permit Application
Sulfur Content.....	50	ppmv as H_2S	Permit Application

Heat Input Data

Value	*Units*	*Reference*
23.375	MMBtu/hour	Daily divided by 24 hr/day
561.000	MMBtu/day	Permit Application
16,830.000	MMBtu/year	Daily times 30 days/yr

Emission Factors

Pollutant	*lb/MMBtu*	*Reference*
NO_x	0.0680	AP-42, Table 13.5-1
ROC	0.2000	District February 2016 Flare Study
CO	0.3700	AP-42, Table 13.5-1
SO_x	0.0075	Mass Balance Calculation
PM	0.0200	SBCAPCD
PM_{10}	0.0200	AP-42, Chapter 1.4
$PM_{2.5}$	0.0200	AP-42, Chapter 1.4

Flare Potential to Emit

Pollutant	lb/day	TPY
NO_x	8.36	0.13
ROC	24.59	0.37
CO	45.49	0.68
SO_x	0.93	0.01
PM	2.46	0.04
PM_{10}	2.46	0.04
$PM_{2.5}$	2.46	0.04

Processed By: JJM Date: 2/2/2023

10.3 Monterey Well List

Operator Name	Field Name	API #	Lease Name	Well #	Well Status	Pool Well Types	Section	Township	Range
Newbridge Acquisition Holdings, LLC	Orcutt	08302038	Careaga	B-1	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302039	Careaga	3	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302040	Careaga	4	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302041	Careaga	5	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302042	Careaga	6	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302043	Careaga	7	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302047	Careaga	11	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302050	Careaga	14	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302054	Careaga	18	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302057	Careaga	21	A	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302058	Careaga	22	A	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302059	Careaga	23	A	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302060	Careaga	24	A	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302061	Careaga	25	I	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302072	Careaga	37	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302075	Careaga	40	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302077	Careaga	43	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302078	Careaga	44	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302079	Careaga	45	A	OG	32	09N	33W

Newbridge Acquisition Holdings, LLC	Orcutt	08302080	Careaga	46	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302081	Careaga	47	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302082	Careaga	48	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302083	Careaga	49	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302084	Careaga	50	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302085	Careaga	51	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302086	Careaga	52	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302088	Careaga	54	I	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302089	Careaga	55	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302090	Careaga	56	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302091	Careaga	57	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302093	Careaga	59	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302094	Careaga	60	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302095	Careaga	61	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302096	Careaga	62	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302097	Careaga	63	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302098	Careaga	64	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302100	Careaga	66	I	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302106	Careaga	73	A	OG	31	09N	33W

Newbridge Acquisition Holdings, LLC	Orcutt	08302107	Careaga	74	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302108	Careaga	75	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302109	Careaga	76	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302110	Careaga	77	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302111	Careaga	78	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302112	Careaga	79	A	OG	36	09N	34W
Newbridge Acquisition Holdings, LLC	Orcutt	08302113	Careaga	80	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302117	Careaga	84	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302118	Careaga	85	I	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302119	Careaga	86	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302120	Careaga	88	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302121	Careaga	89	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302122	Careaga	90	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302123	Careaga	91	I	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302124	Careaga	92	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08302125	Careaga	93	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08320283	Careaga	B-2	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08320291	Careaga	B-3	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08320316	Careaga	B-4	A	OG	31	09N	33W

Newbridge Acquisition Holdings, LLC	Orcutt	08320589	Careaga	16	A	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08320608	Careaga	47X	I	OG	31	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08320677	Careaga	36	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321204	Careaga	37	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321223	Careaga	46	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321379	Careaga	136	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321543	Careaga	31	I	OG	8	08N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321822	Careaga	47A	I	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08321976	Long Canyon	1	I	OG	7	08N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322108	Careaga	126	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322196	Careaga	146D	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322208	Careaga	2A	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322210	Careaga	4A	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322214	Careaga	6724X	I	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322220	Careaga	6	A	OG	32	09N	33W
Newbridge Acquisition Holdings, LLC	Orcutt	08322474	Careaga	7330X	A	OG	32	09N	33W

DRAFT

PART 70 OPERATING PERMIT 16033

ORCUTT HILL AND CASMALIA OIL FIELDS STATIONARY SOURCE

CAREAGA LEASE – DIATOMITE PROJECT

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

OPERATOR

Newbridge Resources LLC

OWNERSHIP

Newbridge Acquisition Holding, LLC (NAH)

Santa Barbara County
Air Pollution Control District

(District Permit to Operate)
(Part 70 Operating Permit)

February 2025

PART II

PART II - DIATOMITE PROJECT

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

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ABBREVIATIONS/ACRONYMS

AP-42	USEPA's *Compilation of Emission Factors*
District	Santa Barbara County Air Pollution Control District
API	American Petroleum Institute
ASTM	American Society for Testing Materials
BACT	Best Available Control Technology
bpd	barrels per day (1 barrel = 42 gallons)
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring
dscf	dry standard cubic foot
EU	emission unit
°F	degree Fahrenheit
gal	gallon
gr	grain
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H_2S	hydrogen sulfide
I&M	inspection & maintenance
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LACT	Lease Automatic Custody Transfer
LPG	liquid petroleum gas
M	thousand
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NEI	net emissions increase
NG	natural gas
NSPS	New Source Performance Standards
O_2	oxygen
OCS	outer continental shelf
PM	particulate matter
PM_{10}	particulate matter less than 10 µm in size
$PM_{2.5}$	particulate matter less than 2.5 µm in size
ppm (vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
RVP	Reid vapor pressure
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC	Total hydrocarbons
tpy, TPY	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VRS	vapor recovery system

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. Santa Barbara County is designated as a non-attainment area for the state Ozone and PM_{10} ambient air quality standards.

Part 70 Permitting: This permit is being issued in accordance with the requirements of the District's Part 70 operating permit program. Following the purchase of the Careaga Lease by Newbridge Acquisition Holding, LLC (NAH), the Careaga Lease became part of Orcutt Hill Stationary Source and subject the requirements of the Part 70 operating permit program. This permit is the initial issuance of the Part 70 permit and may include additional applicable requirements and associated compliance assurance conditions. This permit consists of two parts: Part I addresses operations pertaining to the Monterey formation and Part II addresses operations pertaining to the Diatomite formation where steam injection is used as a secondary recovery mechanism. Operations at both the Monterey and Diatomite formations are currently permitted under PTO 8896-R12 and PTO 13257- R4. This Pt70 permit supersedes both of these permits.

The Careaga Lease is part of the Orcutt Hill and Casmalia Oil Fields Stationary Source which is major source for VOC[1], NO_X and CO emissions. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit (Part I and Part II) are enforceable by the District, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "District-only" enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this Part 70 permit renewal has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Second, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

This reevaluation incorporates greenhouse gas emission calculations for the stationary source. On January 20, 2011, the District revised Rule 1301 to include greenhouse gases (GHGs) that are "subject to regulation" in the definition of "Regulated Air Pollutants". District Part 70 operating permits incorporate the revised definition.

[1] VOC as defined in Regulation XIII has the same meaning as reactive organic compounds as defined in Rule 102. The term ROC shall be used throughout the remainder of this document, but where used in the context of the Part 70 regulation, the reader shall interpret the term as VOC.

1.2 Facility Overview

1.2.1 General Overview: The District issued the initial operating permits for this facility to Shell Oil Company on October 2, 1975. Several additional permitting actions for wastewater and test tanks occurred in the early 1980s. The reevaluation of May 4, 1990 consolidated existing permits into PTO 3554.

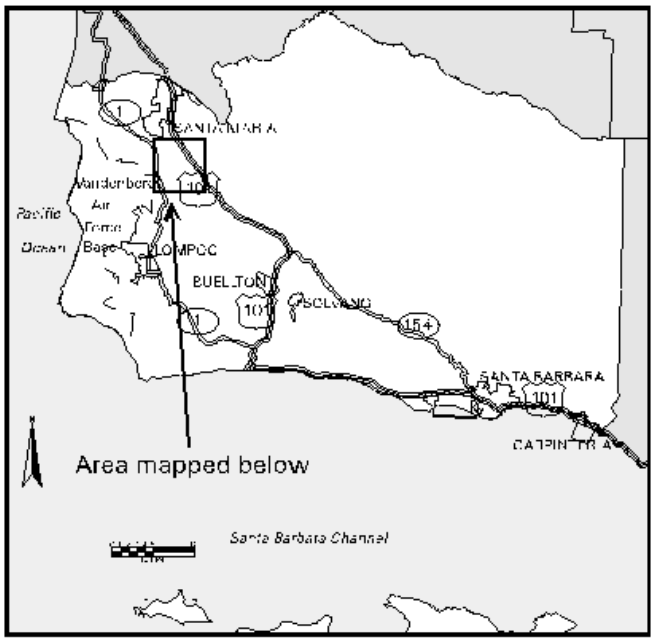
City Santa Barbara Holdings, Inc. purchased the Careaga Lease from the Shell Oil Company effective August 1, 1992. On May 23, 1993, the company was placed in Chapter 11 involuntary bankruptcy. On March 23, 1994, the Trustee of City Santa Barbara Holdings, Inc. appointed Gitte-Ten, Inc. (GTI) the interim manager as requested by the Creditor's Committee. The court approved City Santa Barbara Holdings, Inc.'s reorganization plan on November 11, 1994. GTI became the permanent manager on November 14, 1994. On April 4, 1995, City Santa Barbara Holdings, Inc. changed its name to Phoenix Energy, Inc. GTI transferred lease management to Careaga Hydrocarbons, Inc. on March 31, 1996. On April 18, 2007 transfer of ownership was made from Phoenix Energy, Inc. to Phoenix Energy, LLC. On May 5, 2012 transfer of owner and operator was finalized from Phoenix Energy, LLC to Santa Maria Energy. An owner and operator transfer from Santa Maria Energy to Newbridge Resources occurred in May 2022.

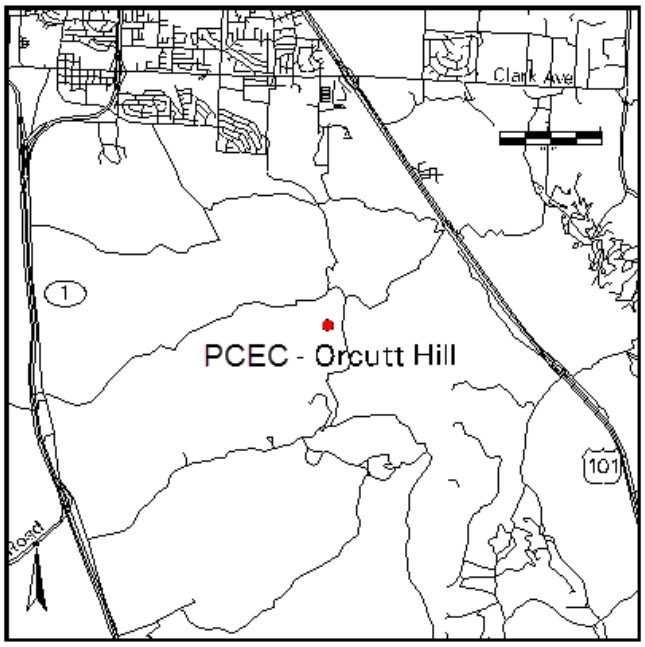
For District regulatory purposes, the facility is located in the Northern Zone of Santa Barbara County[2]. Figure 1.1 shows the relative location of the facility within the county.

[2] District Rule 102, Definition: "Northern Zone"

ORCUTT HILL AND CASMALIA OIL FIELDS STATIONARY SOURCE

Figure 1.1 Location Map for the Careaga Lease





The *Orcutt Hill and Casmalia Oil Fields Stationary Source* (SSID 2667), which was originally developed in the 1920s by Union Oil Company, consists of the facilities listed below. The Careaga, N.R. Bonetti, Escolle, Escolle (Amrich), Arellanes, Morganti, Casmalia ICEs, Musico and Righetti Leases were purchased by PCEC in February 2024 and thereby became incorporated into the original PCEC Orcutt Hill Stationary Source which was renamed the Orcutt Hill and Casmalia Oil Fields Stationary Source.

- California Coast Lease (FID 3206)
- Fox Lease (FID 3313)
- Dome Lease (FID 3314)
- Folsom Lease (FID 3316)
- Graciosa Lease (FID 3318)
- Hartnell Lease (FID 3319)
- Hobbs Lease (FID 3320)
- Newlove Lease (FID 3321)
- Pinal Lease (FID 3322)
- Rice Ranch Lease (FID 3323)
- Squires Lease (FID 3324)
- Getty-Hobbs Lease (FID 3495)
- Orcutt Hill Compressor Plant (FID 4104)
- Orcutt Hill Internal Combustion Engines (FID 4214)
- Orcutt Hill Steam Generators (FID 10482)
- Orcutt Hill Field (MVFF) (FID 1904)
- Careaga Lease (FID 1517)
- Casmalia ICEs (FID 4216)
- N.R. Bonetti Lease (FID 4501)
- Escolle Lease (Amrich) (FID 11593)
- Escolle Lease (FID 3315)
- Arellanes Lease (FID 3212)
- Morganti Lease (FID 3303)
- Musico Lease (FID 3304)
- Righetti Lease (FID 3948)

The following oil and gas processing equipment, with the exception of the thermal oxidizer, are used exclusively at the Diatomite tank battery. Operation of, and emissions associated with, this equipment is addressed below in Part II of this permit:

- Steam Generator
- Thermal oxidizer
- Storage Tanks
- Oil/Water/Gas Separation Systems
- Diatomite Produced Gas Hydrogen Sulfide Treatment Vessels
- Compressors/Pumps
- Fugitive Components

The Diatomite Project was permitted under PTO 13986 in October 2017 for the purpose of producing wells by steam injection. Oil, water and gas are produced from the wells in the Diatomite formation utilizing steam injection to enhance the oil recovery process.

Oil, water and gas are produced from the wells on the Careaga Lease Diatomite formation by steam injection. Production from these wells is piped to the Diatomite tank battery to process Diatomite formation crude oil and gas. Oil is metered via a shared LACT unit and trucked from the facility via a shared loading rack. Produced water is reinjected into the oil formation via water disposal wells. Produced gas is treated for H_2S at the Diatomite Gas Plant and used as fuel gas or sold. The tanks and loading rack are connected to a vapor recovery system.

1.2.2 Facility New Source Review Overview: Table 1.1 provides a summary of the New Source Review history for the Diatomite facility.

Table 1.1
New Source Review Overview

Permit Number	Issuance Date	Permitted Modification
ATC 13759	05/11/2012	Install HydroCat Sulfur Control Vessels
ATC 13986	03/24/2016	Diatomite Cyclic Steam Project
ATC 14319	03/12/2014	Install Thermal Oxidizer

1.3 Emission Sources

Emissions from equipment associated with the Diatomite formation at the Careaga Lease consist of a steam generator, thermal oxidizer oil and gas wells, oil/water/gas separation equipment, tanks and fugitive emission components, such as process-line valves and flanges. Section 4 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources for Diatomite operations include:

- Forty-Nine (49) oil and gas wells
- One (1) 26.500 MMBtu/hr steam generator
- One (1) 41.000 MMBtu/hr thermal oxidizer
- Two (2) Shipping Tanks
- One (1) Wash Tank
- One (1) Wastewater Tank
- Fugitive emission components in gas/liquid hydrocarbon service

A list of all permitted equipment is provided in Section 10.4.

1.4 Emission Control Overview

Emission controls utilized on the Diatomite tank battery include:

→ Thermal oxidizer NO_x emissions are controlled to 15 ppmv at 3% O_2, ROC controlled to 10 ppmv at 3% O_2, and the CO is limited to 15 ppmv at 3% O_2 by use of a forced-draft design that pre-mixes waste gas and combustion air. A metal knit mesh at the burner head promotes mixing and complete combustion. The control system uses a variable frequency drive to control the combustion air blower and ensure a correct air to fuel ratio.

→ The steam generator is equipped with low-NO_x burners and flue gas recirculation. The NO_x emissions have a manufacturer's guaranteed of 9 ppmv at 3% O_2, the ROC emissions are

limited to 7 ppmv at 3% O_2, and the CO emissions meet 27 ppmv at 3% O_2. These values are verified through the monitoring and annual source testing.

→ A Fugitive Hydrocarbon Inspection & Maintenance program for detecting and repairing leaks of hydrocarbons from piping components, i.e., valves, flanges and seals, consistent with the requirements of the District Rule 331 to reduce ROC emissions by approximately 80-percent.

→ A program to keep well cellars pumped out consistent with the requirements of District Rule 344.

→ The storage tanks are connected to a vapor recovery system. A 95-percent control efficiency is applied for the use of vapor recovery.

→ A hydrogen sulfide removal system reduces the total sulfur of the gas associated with the Diatomite formation.

An existing vapor recovery/gas collection (VRGC) system is shared equipment.

1.5 Offsets/Emission Reduction Credit Overview

The Orcutt Hill and Casmalia Oil Fields Stationary Source triggers offsets for NO_x and ROC emissions however emission offsets are not currently required for the Careaga Lease. Emissions associated with future equipment installations at this lease will be evaluated for offset requirements at the time of installation.

1.6 Part 70 Operating Permit Overview

1.6.1 Federally-enforceable Requirements: All federally-enforceable requirements are listed in 40 CFR Part 70.2 (*Definitions*) under "applicable requirements". These include all SIP-approved District Rules, all conditions in the District-issued Authority to Construct permits, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (*see Tables 3.1 and 3.2 for a list of federally-enforceable requirements)*

1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units.

1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 70.2. The federal PTE does include all emissions from any insignificant emissions units. None of the equipment at this facility is subject to a federal NSPS/NESHAP requirement, nor is it included in the 29-category list, therefore the federal PTE does not include fugitive emissions. (*See Section 5.4 for the federal PTE for this source)*

1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source

and its detailed review by the District. Permit shields cannot be indiscriminately granted with respect to all federal requirements. The permittee has not made a request for a permit shield.

1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. The permittee made no request for permitted alternative operating scenarios.

1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A "responsible official" of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (*see Section 1.6.9 below)*

1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.

1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability.

1.6.9 Responsible Official: The designated responsible official and his mailing address is:

Phil Brown
Chief Operation Officer
Pacific Coast Energy Company
1555 Orcutt Hill Rd.
Orcutt, CA 93455

2.0 Process Description

2.1 Process Summary

2.1.1 Overview: Oil, water, and gas are produced from forty-nine wells associated with the Diatomite formation which utilizes steam injection into the oil-bearing reservoir to reduce the viscosity of the oil and enhance recoverability. Steam is generated by one 26.5000 MMBtu/hr steam generator.

2.1.2 Gas, Oil, and Water Separation: Produced oil, water and gas are piped to the Diatomite tank battery where it passes through two three-phase separators and one two-phase separator. Liquids from the separators are sent to the wash tanks where oil and water are separated. Oil is piped to two shipping tanks and the water is sent to the wastewater tanks. The storage tanks are connected to a vapor recovery system. A 95-percent control efficiency is applied for the use of vapor recovery. Vapors are directed to the vapor recovery system which is shared by both the Monterey and Diatomite tank batteries. Produced gas is routed to the Diatomite Gas Plant where it is treated for sulfur removal for use a fuel. Excess gas is combusted in the external combustion equipment or is sold. During periods the thermal oxidizer is not operational the excess gas is flared in an open-pipe flare. The thermal oxidizer and flare are shared by both tank batteries.

2.1.4 Oil and Gas Metering and Shipping: Oil from the crude storage tank is metered through a LACT metering system and is shipped from the lease via pipeline. When the pipeline is unavailable, crude oil is trucked from the facility.

2.1.5 Wastewater Disposal: The water separated in the wash tank is sent to the wastewater tanks. The wastewater is then reinjected into the producing formation.

2.2 Support Systems

There are no additional support systems associated with the Diatomite equipment.

2.3 Maintenance/Degreasing Activities

2.3.1 Paints and Coatings: Intermittent surface coating operations are conducted throughout the facility for occasional structural and equipment maintenance needs, including architectural coating. Normally only touch-up and equipment labeling or tagging is performed. All architectural coatings used are in compliance with District Rule 323, as verified through the rule-required recordkeeping.

2.3.2 Solvent Usage: Solvents not used for surface coating thinning may be used for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

2.4 Planned Process Turnarounds

Maintenance of critical components is carried out according to the requirements of Rule 331 (*Fugitive Emissions Inspection and Maintenance*) during turnarounds. The permittee has not listed any emissions from planned process turnarounds that should be permitted.

2.5 Other Processes

2.5.1 Unplanned Activities/Emissions: The permittee does not anticipate or foresee any circumstances that would require special equipment use and result in excess emissions.

2.6 Detailed Process Equipment Listing

Refer to Attachment 10.4 for a complete listing of all permitted equipment.

3.0 Regulatory Review

This Section identifies each federal, state and local rule and regulation.

3.1 Rule Exemptions Claimed

📖 District Rule 202 (*Exemptions to Rule 201*): The following exemptions apply to this facility. An exemption from permit, however, does not necessarily grant relief from any applicable prohibitory rule.

- Section D.6 De Minimis Exemptions: This section requires PCEC to maintain a record of each de minimis change, which includes emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the District upon request. As of June 2020, the de minimis total at the Orcutt Hill and Casmalia Oil Fields Stationary Source is 20.94 lbs ROC/day. This total does not include the previously claimed emissions from the Sx Sands project (ATC 13140).

- Section D.8 Routine Repair and Maintenance: A permit shall not be required for routine repair or maintenance of permitted equipment, not involving structural changes.

- Section D.14 Architectural Coatings: Application of architectural coating in the repair and maintenance of a stationary structure is exempt from permit requirements.

- Section U.2 Degreasing Equipment: Single pieces of degreasing equipment, which use unheated solvent, and which: a) have a liquid surface area of less than 1.0 square foot unless the aggregate liquid surface area of all degreasers at a stationary source, covered by this exemption is greater than 10 square feet; and b) use only organic solvents with an initial boiling point of 302^{O} F or greater; or c) use materials with a volatile organic compound content of two-percent or less by weight as determined by EPA Method 24.

- Section U.3 Wipe Cleaning: Equipment used in wipe cleaning operations provided that the solvents used do not exceed 55 gallons per year. The permittee shall maintain records of the amount of solvents used for each calendar year. These records shall be kept for a minimum of 3 years and be made available to the District on request.

In addition, the following two Rule 202 permit exemptions may apply:

- Section F.1.c Internal Combustion Engines: Engines used to propel vehicles, as defined in Section 670 of the California Vehicle Code, but not including any engine mounted on such vehicles that would otherwise require a permit under the provisions of District Rules and Regulations.

- Section F.2 Portable Internal Combustion Engines: Portable ICEs eligible for statewide registration pursuant to Title 13, Section 2450 *et seq*., and not integral to the stationary source operations.

📖 District Rule 321 (*Solvent Cleaning Operations*): Section D.4 exempts solvent wipe cleaning operations from the requirements of this rule.

📖 District Rule 331 (*Fugitive Emission Inspection and Maintenance*): The following exemptions were applied for in the permittee's Inspection and Maintenance Plan and approved by the District:

- Section B.2.b for components buried below the ground.
- Section B.2.c for stainless steel tube fittings.

📖 District Rule 343 (*Petroleum Storage Tank Degassing*): A tank degassing plan for the Diatomite Project petroleum storage and processing tanks is not required since TVP sample results were below the applicability threshold of 2.6 psia. Future sampling will ensure that this rule exemption continues to apply to the Diatomite tank battery storage tanks.

3.2 Compliance with Applicable Federal Rules and Regulations

3.2.1 40 CFR Parts 51/52 {*New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration*)}: The Careaga Lease was constructed and permitted prior to the applicability of these regulations. All modifications are subject to the District's New Source Review regulation. Compliance with the regulation assures compliance with 40 CFR 51/52.

3.2.2 40 CFR Part 60 {*New Source Performance Standards*): The crude oil storage tanks installed for the Diatomite tank battery are not subject because they have a design volume less than 1,589.874 m^3 (10,000 bbls) and are located prior to custody transfer.

40 CFR Part 60: Subpart Dc applies to new steam generators and boilers rated from 10.000 to 100.000 MMBtu/hr. The SO_2 limits of the Subpart only apply to units that combust coal or oil. The PM limits of the subpart only apply to units that combust coal, wood, or oil. The steam generator is fired on natural gas only, therefore it is not subject to any emission limits of this Subpart. The owner or operator is required to maintain fuel use records

3.2.3 40 CFR Part 61 {*NESHAP}*: This facility is not currently subject to the provisions of this Subpart.

3.2.4 40 CFR Part 63 {*MACT*}: On June 17, 1999, EPA promulgated Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. This facility currently is not subject to the provisions of this Subpart. Information was submitted on March 26, 2002 indicating its source is exempt from the requirements of MACT because they demonstrated that this facility is not a "major source" as defined in 40 CFR 63.761. The permittee verified that this lease does not store crude oil with an API gravity of 40^o or greater, and does not have a glycol reboiler. On March 27, 2002 the District issued a letter agreeing with this exemption.

3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally-enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are currently subject to CAM. All emission units at this facility have a pre-control emission potential less than 100 tons/year.

3.2.6 40 CFR Part 70 {*Operating Permits*}: This Subpart is applicable to the Careaga Lease. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the

Careaga Lease. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to the Careaga Lease. These tables are based on data available from the District's administrative files and from the permittee's Part 70 Operating Permit renewal application. Table 3.4 includes the adoption dates of these rules.

In its Part 70 permit application, the permittee certified compliance with all existing District rules and permit conditions. This certification is also required of the permittee semi-annually.

3.3 Compliance with Applicable State Rules and Regulations

3.3.1 Division 26. Air Resources {California Health & Safety Code}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the District. These provisions are District-enforceable only.

3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the Careaga Lease are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are District-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.

3.3.3 Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (CCR Title 17, Section 95665 *et. Seq.*): On October 1, 2017, the California Air Resources Board (CARB) finalized this regulation, which establishes greenhouse gas emission standards for onshore and offshore crude oil and natural gas production facilities. This facility is subject to the provisions of this regulation. The separators and tanks at this facility satisfy the requirements of the CARB regulation through the use of a vapor collection system. This facility is exempt from the leak detection and repair (LDAR) requirements of the CARB regulation per Section 95669(c)(1), which exempts components, including components found on tanks, separators, wells and pressure vessels, that are subject to District Rule 331 LDAR requirements prior to January 1, 2018. This facility does not utilize circulation tanks for well stimulation treatments, reciprocating or centrifugal natural gas compressors, natural gas powered pneumatic devices or pumps, natural gas only wells, or well casing vents, and is therefore not subject to the CARB regulation standards and requirements for these equipment and processes.

3.4 Compliance with Applicable Local Rules and Regulations

3.4.1 Applicability Tables: Tables 3.1 and 3.2 list the federally enforceable District rules that apply to the facility. Table 3.3 lists the non-federally-enforceable District rules that apply to the facility. Table 3.4 lists the adoption date of all rules that apply to the facility.

3.4.2 Rules Requiring Further Discussion: This section provides a more detailed discussion regarding the applicability and compliance of certain rules. The following is a rule-by-rule evaluation of compliance for this facility:

Rule 201 - Permits Required: This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance that may cause the issuance of air contaminants. The equipment included in this permit is listed in Attachment 10.4. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

Rule 210 - Fees: Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C).

Rule 301 - Circumvention: This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and District rules and regulations. To the best of the District's knowledge, the permittee is operating in compliance with this rule.

Rule 302 - Visible Emissions: This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringlemann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringlemann Chart. Sources subject to this rule include all internal combustion engines at the facility. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules and by requiring visible emissions inspections of the diesel engines.

Rule 303 (Nuisance): Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Compliance with this rule is assessed through the District's enforcement staff's complaint response program. Based on the source's location, the potential for public nuisance is small.

Rule 304 (Particulate Matter - Northern Zone): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions.

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO_2 (by volume) and 0.3 gr/scf (at 12% CO_2) respectively.

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H_2S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour. No measured data exists to confirm compliance with this rule.

Rule 311 - Sulfur Content of Fuels: This rule limits the sulfur content of fuels combusted on the Careaga Lease to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H_2S) {or 796 ppmvd} for gaseous fuels. All fuel burning equipment on the lease is expected to be in compliance with the fuel limit as determined by required fuel analysis documentation.

Rule 317 - Organic Solvents: This rule sets specific prohibitions against the discharge of emissions of both photochemically and non-photochemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). Solvents may be used on the lease during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There is the potential to exceed the limits under Section B.2 during significant surface coating activities. The permittee will be required to maintain records to ensure compliance with this rule.

Rule 321 - Solvent Cleaning Operations: This rule, revised June 2012, fulfills the commitment in the 2001 and 2004 Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These proposed provisions apply to solvent cleaning machines and wipe cleaning.

Rule 322 - Metal Surface Coating Thinner and Reducer: This rule prohibits the use of photochemically reactive solvents for use as thinners or reducers in metal surface coatings. The permittee will be required to maintain records during maintenance operations to ensure compliance with this rule.

Rule 323.1 (Architectural Coatings): This rule sets the standards for any architectural coating that is supplied, sold, offered for sale, or manufactured for use within the District.

Rule 324 - Disposal and Evaporation of Solvents: This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. The permittee will be required to maintain records to ensure compliance with this rule.

Rule 325 - Crude Oil Production and Separation: This rule, adopted January 25, 1994, applies to equipment used in the production, gathering, storage, processing and separation of crude oil and gas prior to custody transfer. The primary requirements of this rule are under Sections D and E. Section D requires the use of vapor recovery systems on all tanks and vessels, including wastewater tanks, oil/water separators and sumps. Section E requires that all produced gas be controlled at all times, except for wells undergoing routine maintenance. All of the tanks associated with the Diatomite tank battery are connected to the vapor recovery system. Compliance with Section E is met by directing all produced gas to a sales compressor, injection well or to a flare relief system.

Rule 326 - Storage of Reactive Organic Liquids: This rule applies to equipment used to store reactive organic compound liquids with a vapor pressure greater than 0.5 psia. The tanks on the Careaga Lease are subject to Rule 325, and therefore are not subject to this rule per Section B.1.c.

Rule 330 - Surface Coating of Metal Parts and Products: This rule sets standards for many types of coatings applied to metal parts and products. In addition to the ROC standards, this rule sets operating standards for application of the coatings, labeling and recordkeeping. Compliance with this rule will be demonstrated through inspections and recordkeeping.

Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. Ongoing compliance with the many provisions of this rule will be assessed via inspection by District personnel using an organic vapor analyzer and through analysis of operator records. The Careaga Lease does not perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the vapor recovery system.

Rule 342 - Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters: This rule applies to boilers, steam generators and process heaters with rated heat inputs greater than or equal to 5 million Btu per hour used in all industrial, institutional and commercial operations. Compliance shall be based on source testing and site inspections. The steam

generator is subject to this rule and is equipped with emission controls that ensure compliance with this rule.

Rule 343 - Petroleum Storage Tank Degassing: This rule applies to the degassing of any above-ground tank, reservoir or other container of more than 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 2.6 psia or between 20,000 gallons and 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 3.9 psia.

Rule 344 - Sumps, Pits and Well Cellars: Rule 344 requires monitoring of the well cellars, sumps and pits. There are no sumps, pits or well cellars at the Diatomite tank battery.

Rule 352 - Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters: This rule applies to new water heaters rated less than 75,000 Btu/hr and new fan-type central furnaces. It requires the certification of newly installed units.

Rule 353 - Adhesives and Sealants: This rule applies to the use of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers. Compliance shall be based on site inspections.

Rule 359 - Flares and Thermal Oxidizers: This rule applies to flares and thermal oxidizers. It requires compliance with specific emission limits and adherence to technological based standards and monitoring, recordkeeping and reporting requirements. The thermal oxidizer is subject to this rule and, based on the conditions of this permit, will comply with all rule requirements.

Rule 505 - Breakdown Conditions: This rule describes the procedures that the permittee must follow when a breakdown condition occurs to any emissions unit associated with the Careaga Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;

b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;

c. Is not the result of improper maintenance;

d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;

e. Is not a recurrent breakdown of the same equipment.

Rule 810 - Federal Prevention of Significant Deterioration: This rule, revised June 20, 2013, incorporates the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

3.5 Compliance History

This section contains a summary of the compliance history for this facility and was obtained from documentation contained in the District's administrative file.

3.5.1 Facility Inspections. Since the last permit reevaluation, one facility inspection was conducted on September 30, 2020. There were no enforcement actions issued during this inspection.

3.5.2 Violations: There have been no enforcement actions issued to this facility since issuance of the previous permit renewal.

3.5.3 Variances and Significant Historical Hearing Board Actions: There have been no variances or significant historical Hearing Board actions issued since the previous permit renewal.

Table 3.1 - Generic Federally-Enforceable District Rules

Generic Requirements	Affected Emission Units	Basis for Applicability
RULE 101: Compliance by Existing Installations	All emission units	Emission of pollutants
RULE 102: Definitions	All emission units	Emission of pollutants
RULE 103: Severability	All emission units	Emission of pollutants
RULE 201: Permits Required	All emission units	Emission of pollutants
RULE 202: Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function
RULE 203: Transfer	All emission units	Change of ownership
RULE 204: Applications	All emission units	Addition of new equipment of modification to existing equipment.
RULE 205: Standards for Granting Permits	All emission units	Emission of pollutants
RULE 206: Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
RULE 207: Denial of Applications	All emission units	Applicability of relevant Rules
RULE 208: Action on Applications - Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
RULE 212: Emission Statements	All emission units	Administrative
RULE 301: Circumvention	All emission units	Any pollutant emission
RULE 302 : Visible Emissions	All emission units	Particulate matter emissions
RULE 303: Nuisance	All emission units	Emissions that can injure, damage or offend.
RULE 304: Particulate matter – Northern Zone	Each PM Source	Emission of PM in effluent gas
RULE 309: Specific Contaminants	All emission units	Combustion contaminant emission
RULE 311: Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur

Generic Requirements	Affected Emission Units	Basis for Applicability
RULE 317: Organic Solvents	Emission units using solvents	Solvent used in process operations.
RULE 321: Solvent Cleaning Operations	Emission units using solvents	Solvent used in process operations.
RULE 322: Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
RULE 323.I: Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
RULE 324: Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
RULE 353: Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
RULE 505.A, B1, D: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded.
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Orcutt Hill and Casmalia Oil Fields Stationary Source is a major source.
RULE 901: New Source Performance Standards (NSPS)	All emission units	Applicability standards are specified in each NSPS.
RULE 1001: National Emission Standards for Hazardous Air Pollutants (NESHAPS)	All emission units	Applicability standards are specified in each NESHAP
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment.
REGULATION XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	Orcutt Hill and Casmalia Oil Fields Stationary Source is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
RULE 325: Crude Oil Production and Separation	Wash tank, crude storage tanks, wastewater tanks	Pre-custody transfer oil service tanks with capacities exceeding exemption limits.
RULE 331: Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs.
RULE 342: Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters	Steam Generator	Steam Generator rated at greater than 5.000 million Btu per hour.
RULE 343: Petroleum Storage Tank Degassing	Wash tank, crude storage tanks, wastewater tanks	Tanks used in storage of organic liquids with vapor pressure > 2.6 psia.
RULE 344: Petroleum Pits, Sumps and Cellars	Well cellars, sump, wastewater pits	Compliance with this rule provides a 70% reduction in well cellar ROC emissions.
RULE 360: Boilers, Water Heaters, and Process Heaters (0.075 - 2 MMBtu/hr)	Any new small boiler installed at the facility.	New units rated from 75,000 Btu/hr to 2.000 MMBtu/hr.

Table 3.3 - Non-Federally-Enforceable District Rules

Requirement	Affected Emission Units	Basis for Applicability
RULE 210: Fees	All emission units	Administrative
RULE 310: Odorous Org. Sulfides	All emission units	Emission of organic sulfides
RULE 352: Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	New water heaters and furnaces	Upon installation
RULES 501-504: Variance Rules	All emission units	Administrative
RULE 505.B2, B3, C, E, F, G: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
RULES 506-519: Variance Rules	All emission units	Administrative

Table 3.4 - Adoption Dates of District Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	August 25, 2016
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	June 21, 2012
Rule 202	Exemptions to Rule 201	August 25, 2016
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	June 1981
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	June 12, 2012
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323.I	Architectural Coatings	June 19, 2014
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	July 19, 2001

Rule No.	Rule Name	Adoption Date
Rule 326	Storage of Reactive Organic Compound Liquids	July 19, 2001
Rule 328	Continuous Emissions Monitoring	October 23, 1978
Rule 330	Surface Coating of Metal Parts and Products	June 12, 2012
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	June 19, 2008
Rule 342	Control of Oxides of Nitrogen (NOx) from Boilers, Steam Generators and Process Heaters	June 20, 2019
Rule 343	Petroleum Storage Tank Degassing	December 14, 1993
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 352	Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	October 20, 2011
Rule 353	Adhesives and Sealants	June 21, 2012
Rule 360	Boilers, Water Heaters, and Process Heaters (0.075 - 2 MMBtu/hr)	March 15, 2018
Rule 361	Small Boilers, Steam Generators and Process Heaters	June 20, 2019
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	August 25, 2016
Rule 802	Nonattainment Review	August 25, 2016
Rule 803	Prevention of Significant Deterioration	August 25, 2016
Rule 804	Emission Offsets	August 25, 2016
Rule 805	Air Quality Impact and Modeling	August 25, 2016
Rule 806	Emission Reduction Credits	August 25, 2016
Rule 808	New Source Review for Major Sources of Hazardous Air Pollutants	May 20, 1999
Rule 810	Federal Prevention of Significant Deterioration (PSD)	June 20, 2013
Rule 901	New Source Performance Standards (NSPS)	September 20, 2010
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	August 25, 2016

Rule No.	Rule Name	Adoption Date
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	November 9, 1993
Rule 1304	Issuance, Renewal, Modification and Reopening	November 9, 1993
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

The engineering analyses performed for this permit were limited to the review of:

- → facility process flow diagrams
- → emission factors and calculation methods for each emissions unit
- → emission control equipment (including RACT, BACT, NSPS, NESHAP, MACT)
- → emission source testing, sampling, CEMS, CAM
- → process monitors needed to ensure compliance

Unless noted otherwise, default ROC/THC reactivity profiles from the District's document titled "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" dated July 13, 1998 (ver 1.1) was used to determine non-methane, non-ethane fraction of THC.

4.2 Stationary Combustion Sources

4.2.1 General: The stationary combustion sources associated with the Careaga Diatomite formation consists of a 26.5000 MMBtu/hr steam generator and a 41.000 MMBtu/hr thermal oxidizer. The steam generator is used to generate steam to inject steam into the producing formation and functions as enhanced recovery mechanism. The thermal oxidizer is used to combust excess gases not used as fuel or for other facility needs.

4.2.2 Steam Generator Emission: The 26.500 MMBtu/hr steam generator is equipped with low-NO_x burners and flue gas recirculation. The NO_x emissions have a manufacturer's guaranteed of 9 ppmv at 3% O_2, the ROC emissions are limited to 7 ppmv at 3% O_2, and the CO emissions meet 27 ppmv at 3% O_2. These values are verified through the monitoring and annual source testing.

4.2.3 Steam Generator Emission Factors: The following is documentation of the steam generator emission factors based on the manufacturers' emission guarantees in units of parts per million:

$EF = (2.634 \times 10^{-9})$ (ppmvd) (MW) (F factor)

Where:

EF	= Emission factor in units of lb/MMBtu
(2.634×10^{-9})	= (1 lb-mole / 379.6 ft^3) (1 / 1,000,000)
F factor	= Stack flow at 3% O_2 = 10,051 dscf/MMBtu at 3% O_2

MW NO_x = 46.01 lb/lb-mole
MW ROC = 16.04 lb/lb-mole (as methane)
MW CO = 28.01 lb/lb-mole

Steam Generator Emission Guarantee

NO_x = 9 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)
ROC = 7 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)
CO = 27 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)

Calculated lb/MMBtu limits:

NO_x Emission Factor = 0.0110 lb/MMBtu
ROC Emission Factor = 0.0030 lb/MMBtu
CO Emission Factor = 0.0200 lb/MMBtu

4.2.4 Thermal Oxidizer: The 41.000 MMBtu/hr thermal oxidizer is a forced-draft design that pre-mixes waste gas and combustion air. A metal knit mesh at the burner head promotes mixing and complete combustion. A stack thermocouple monitors exhaust temperature. The thermal oxidizer produced gas pilot is non-continuous. A control system uses a variable frequency drive to control the combustion air blower and ensure a correct air to fuel ratio. The NO_x emissions are controlled to 15 ppmv at 3% O_2, ROC controlled to 10 ppmv at 3% O_2, and the CO is limited to 15 ppmv at 3% O_2. These values are verified through the monitoring and annual source testing.

NO_x = 15 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)
ROC = 10 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)
CO = 15 ppmvd at 3% O_2 (Source: Manufacturer Guarantee)

Calculated lb/MMBtu limits:

NO_x Emission Factor = 0.0183 lb/MMBtu
ROC Emission Factor = 0.0042 lb/MMBtu
CO Emission Factor = 0.0111 lb/MMBtu

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices have been quantified using the component leak path method described in P&P 6100.061 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts)*. Emission calculations are provided in Attachment 10.2. Fugitive components associated with the Diatomite equipment are subject to BACT and therefore either an emission control efficiency of 90-percent is credited to all valves and flanges or a leak detection and repair rate (LDAR) of 100 ppmv THC or less is applied. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records. Permitted fugitive ROC emissions from fugitive components reflect the elimination of ethane from the list of ROCs.

4.4 Tanks/Vessels/Sumps/Separators

4.4.1 Oil-Water Separation and Crude Oil Storage Tanks: The Diatomite tank battery equipment utilizes various separation pressure vessels, one 1,000 bbl wash tank and two 1,000 bbl shipping tanks. The wash tank measures 15.5 feet diameter by 28 feet high and the shipping tanks 21.5 feet diameter by 16 feet high. All tanks are vertical, cone roof tanks and are connected to vapor

recovery. Emissions from these tanks are calculated using USEPA AP-42, Chapter 7 - Liquid Storage Tanks (5th Edition, 2/96). Attachment 10.2 contains emission spreadsheets showing the detailed calculations for these tanks.

4.4.2 Pits, Sumps and Well Cellars: There are no pits, sumps, or well cellars at the Diatomite tank battery.

4.4.3 Waste Water Tanks: The Diatomite tank battery utilizes one 1,000 bbl waste water tank and measures 21.5 feet diameter by 16 feet high. The tank is served by vapor recovery. Emissions from the tank are calculated using the same methodology as pits and sumps, and is based on District's P&P 6100.060 (*Calculation of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for the Revised ROC Definition*). Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for the tanks.

4.4.4 Crude Oil Loading Rack: Crude oil is shipped offsite using by a crude oil loading rack connected to vapor recovery. This unit is utilized for shipping crude oil from both the Monterey and Diatomite facilities. Emissions from the loading rack are calculated using the District Loading Rack Emission Calculation spreadsheet (ver 3.0). Attachment 10.2 contains the emission spreadsheet detailing the calculations for this equipment.

4.5 Other Emission Sources

4.5.1 General Solvent Cleaning/Degreasing: Solvent usage (not used as thinners for surface coating) may occur at the facility as part of normal daily operations. The usage includes cold solvent degreasing. Mass balance emission calculations are used assuming all the solvent used evaporates to the atmosphere.

4.5.2 Surface Coating: Surface coating operations typically include normal touch up activities. Entire facility painting programs may also be performed. Emissions are determined based on mass balance calculations assuming all solvents evaporate into the atmosphere. Emissions of $PM/PM_{10}/PM_{2.5}$ from paint overspray are not calculated due to the lack of established calculation techniques.

4.5.3 Abrasive Blasting: Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be electric or diesel fired. If diesel fired, permits will be required unless the engine is registered with CARB. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to estimate emissions of $PM/PM_{10}/PM_{2.5}$ when needed for compliance verifications. A $PM/PM_{10}/PM_{2.5}$ ratio of 1.0 is assumed.

4.6 Vapor Recovery/Control Systems

The Tank Vapor Recovery System collects vapors from the tanks at the Monterey and Diatomite tank batteries, as well as, the crude oil loading rack. The vapors from the Diatomite production are sent to the Diatomite Gas Plant where they are treated for sulfur removal then routed to the blending skid and utilized as fuel. Excess gas is combusted in the thermal oxidizer or sold. Overall ROC control efficiency for the vapor recovery system is assumed to be 95 percent.

4.7 BACT/NSPS/NESHAP/MACT

Best Available Control Technology (BACT) is required for the Diatomite tank battery installation based on the uncontrolled NO_x and ROC Project Potential to Emit exceeding the 25

lb/day criteria pollutant thresholds for BACT. BACT requirements are detailed in permit conditions and Table 5.7 of this permit.

To date, this facility has not triggered National Emission Standards for Hazardous Air Pollutants (NESHAP) or Maximum Available Control Technology (MACT). The steam generators are subject to NSPS Subpart Dc, but no emission limits of the Subpart apply to these units.

4.8 CEMS/Process Monitoring/CAM

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include the volume of gas burned in the steam generators, fuel usage meters, water injection mass flow meters. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. The permittee is required to report oil throughput, however this permit requires no specific monitors.

4.8.3 CAM: The Orcutt Hill and Casmalia Oil Fields Stationary Source is a major source that is subject to the USEPA's Compliance Assurance Monitoring (CAM) rule (40 CFR 64). Any emissions unit at the facility with uncontrolled emissions potential exceeding major source emission thresholds (100 tpy) for any pollutant is subject to CAM provisions. It was determined that CAM was not applicable to any equipment units at this facility.

4.9 Source Testing/Sampling

Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis for issuing operating permits. This permit requires source testing of air emissions and process parameters for the steam generators and thermal oxidizer. See Table 5.6 of this permit for source testing requirements.

At a minimum, the process streams below are required to be sampled and analyzed on a periodic basis, per District Rules and standards:

- → Produced Oil: API gravity and true vapor pressure of the crude oil.
- → Produced Gas: The H_2S and total sulfur content of produced/fuel gas.

All sampling and analyses are required to be performed according to District approved procedures and methodologies. Typically, the appropriate ASTM methods are acceptable. For liquids with API gravity over 20, ASTM D323 applies for true vapor pressure (TVP) measurement. In this case, the TVP at the maximum expected temperature shall be calculated from the Reid vapor pressure in accordance with API Bulletin 2518, or equivalent Reid/true vapor pressure correlation. The calculated true vapor pressure is based on the maximum expected operating temperature in the initial crude oil storage tank. TVP sampling methods for liquids with an API gravity under 20^O require specialized procedures per Rule 325.G.2.b. It is important that all sampling and analysis be traceable by chain of custody procedures.

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Total emissions of hazardous air pollutants (HAP) are computed for each emissions unit. HAP emission factors and emissions are listed in Part I of this permit.

5.0 Emissions

5.1 General

The facility was analyzed to determine all air-related emission sources. Emissions calculations are divided into "permitted" and "exempt" categories. District Rule 202 determines permit exempt equipment. The permitted emissions for each emissions unit is based on the equipment's potential-to-emit (as defined by Rule 102).

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility.

The District uses a computer database to accurately track the emissions from a facility. Attachment 10.3 contains the District's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

⇒ Nitrogen Oxides (NO_x) [3]
⇒ Reactive Organic Compounds (ROC)
⇒ Carbon Monoxide (CO)
⇒ Sulfur Oxides (SO_x) [4]
⇒ Particulate Matter (PM) [5]
⇒ Particulate Matter smaller than 10 microns (PM_{10})
⇒ Particulate Matter smaller than 2.5 microns ($PM_{2.5}$)
⇒ Greenhouse Gases (GHG)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, may be found in Section 4 and Attachments 10.1 and 10.2 respectively. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Tables 5.1-3 and 5.1-4 show the permitted short-term and permitted long-term emissions for each unit or operation. In the table, the last column indicates whether the emission limits are federally-enforceable. Those emissions limits that are federally-enforceable are indicated by the symbol "FE". Those emissions limits that are District-only enforceable are indicated by the symbol "A".

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[3] Calculated and reported as nitrogen dioxide (NO_2)

[4] Calculated and reported as sulfur dioxide (SO_2)

[5] Calculated and reported as all particulate matter smaller than 100 μm

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the Careaga Lease Diatomite formation operations. Table 5.3 shows the federal potential to emit from the Careaga Lease Diatomite formation operations. Table 5.4 slows the total permitted emissions for the entire Careaga Lease (Monterey and Diatomite).

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. Coating emissions, although exempt from permit requirements, are included in the federal potential to emit calculation. This facility does not belong to one of the categories listed in 40 CFR 70.2, therefore fugitive emissions do not contribute to the federal PTE.

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.5-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.5-2.

5.6 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to District Rule 202 include maintenance operations involving surface coating. In addition, *insignificant activities* such as maintenance operations using paints and coatings, contribute to the facility emissions.

5.7 Greenhouse Gas Emissions Computations

On January 20, 2011, the District revised Rule 1301 to include greenhouse gases (GHGs) that are "subject to regulation" in the definition of "Regulated Air Pollutants". The facility's potential to emit has been estimated, however the greenhouse gas PTE is not an emission limit. The facility will not become subject to emission limits for GHGs unless a project triggers federal Prevention of Significant Deterioration requirements under Rule 810.

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 98. CO_2 equivalent emission factors are calculated for CO_2, CH_4, and N_2O individually, then summed to calculate a total CO_{2e} emission factor. Annual CO_{2e} emission totals are provided in the emission tables of this permit.

For natural gas combustion the emission factor is:
(53.02 kg CO_2/MMbtu) (2.2046 lb/kg) = 116.89 lb CO_2/MMBtu
(0.001 kg CH_4/MMBtu) (2.2046 lb/kg)(21 lb CO_2e/lb CH4) = 0.046 lb CO_2e/MMBtu
(0.0001 kg N_2O/MMBtu) (2.2046 lb/kg)(310 lb CO_2e/lb N_2O) = 0.068 lb CO_2e/MMBtu
Total CO2e/MMBtu = 116.89 + 0.046 + 0.068 = 117.00 lb CO_2e/MMBtu

Table 5.1-1
Pacific Coast Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Operating Equipment Description

			Device Specifications			Usage Data		Maximum Operating Schedule				
Equipment Category	**Description**	**Dev No**	**Feed**	**TVP**	**Size**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**
Combustion Equipment	Steam Generator	115058	PUC/prod gas		--	26.500	MMBtu/hr	1	1	24	2190	8760
	Thermal Oxidizer	386087	PUC/prod gas		--	41.000	MMBtu/hr	1	1	24	2190	8760
Tanks	Wash Tank	115073	O/W	1.170	1,000 bbls	1,000	bbl/day	1.0	1.0	24	2,190	8,760
	Shipping Tank	115079	Oil	1.170	1,000 bbls	1,000	bbl/day	1.0	1.0	24	2,190	8,760
	Shipping Tank	115077	Oil	1.170	1,000 bbls	1,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wastewater Tank	115076	Water	--	1,000 bbls	--	--	1.0	1.0	24	2,190	8,760
Loading Rack	Loading Rack (shared)	115025	See Attached Worksheet for Equipment Description					1.0	1.0	24	2,190	8,760
Fugitive Components (a)	Diatomite Fugitives	115086	See Attached Worksheet for Equipment Description					1.0	1.0	24	2,190	8,760

Notes:
(a) Component Leak Path Method

Table 5.1-2
Pacific Coast Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Equipment Emission Factors

			Emission Factors							
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**$PM_{2.5/10}$**	**GHG**	**Units**
Combustion Equipment	Steam Generator	115058	0.0110	0.0030	0.0200	0.0075	0.0075	0.0075	117.0000	lb/MMBtu
	Thermal Oxidizer	386087	0.0183	0.0042	0.0111	0.0075	0.0200	0.0200	117.0000	lb/MMBtu
Tanks	Wash Tank	115073	See attached worksheets for emission factors.							
	Shipping Tank	115079								
	Shipping Tank	115077								
	Wastewater Tank	115076								
Loading Rack	Loading Rack (shared)	115025	See attached worksheet for emission factors							
Fugitive Components (a)	Diatomite Fugitives	115086	See attached worksheet for emission factors							

Table 5.1-3
Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Hourly and Daily Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG		Enforceability
Equipment Category	Description	Dev No	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	Type
Combustion Equipment	Steam Generator	115058	0.29	7.00	0.08	1.91	0.53	12.72	0.20	4.77	0.20	4.77	0.20	4.77	3100.50	74412.00	FE
	Thermal Oxidizer	386087	0.75	18.01	0.17	4.13	0.46	10.92	0.31	7.38	0.82	19.68	0.82	19.68	4797.00	115128.00	FE
Tanks	Wash Tank	115073	--	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--	FE
	Shipping Tank	115079	--	--	0.02	0.49	--	--	--	--	--	--	--	--	--	--	FE
	Shipping Tank	115077	--	--	0.02	0.49	--	--	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	115076	--	--	0.01	0.23	--	--	--	--	--	--	--	--	--	--	FE
Loading Rack	Loading Rack (shared)	115025	--	--	0.17	4.00	--	--	--	--	--	--	--	--	--	--	A
Fugitive Components	Diatomite Fugitives	115086	--	--	0.12	2.90	--	--	--	--	--	--	--	--	--	--	A

Notes:
A = APCD enforceable emission limit.
FE = Federally enforceable emission limit.

Table 5.1-4
Pacific Coast Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Quarterly and Annual Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG		Enforceability
Equipment Category	Description	Dev No	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type
Combustion Equipment	Steam Generator	115058	0.32	1.28	0.09	0.35	0.58	2.32	0.22	0.87	0.22	0.87	0.22	0.87	3395.05	13580.19	FE
	Thermal Oxidizer	386087	0.82	3.29	0.19	0.75	0.50	1.99	0.34	1.35	0.90	3.59	0.90	3.59	5252.72	21010.86	FE
Tanks	Wash Tank	115073	--	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--	
	Shipping Tank	115079	--	--	0.02	0.09	--	--	--	--	--	--	--	--	--	--	FE
	Shipping Tank	115077	--	--	0.02	0.09	--	--	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	115076	--	--	0.02	0.08	--	--	--	--	--	--	--	--	--	--	FE
Loading Rack	Loading Rack (shared)	115025	--	--	0.06	0.24	--	--	--	--	--	--	--	--	--	--	A
Fugitive Components	Diatomite Fugitives	115086	--	--	0.13	0.52	--	--	--	--	--	--	--	--	--	--	A

Notes:
A = APCD enforceable emission limit.
FE = Federally enforceable emission limit.

Table 5.2
Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Careaga Lease Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.04	0.25	0.99	0.51	1.02	1.02	7,897.50
Tanks	--	0.05	--	--	--	--	--
Loading Rack	--	0.17	--	--	--	--	--
Fugitive Components	--	0.12	--	--	--	--	--
	1.04	**0.59**	**0.99**	**0.51**	**1.02**	**1.02**	**7,897.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	25.00	6.04	23.64	12.15	24.45	24.45	189,540.00
Tanks	--	1.21	--	--	--	--	--
Loading Rack	--	4.00	--	--	--	--	--
Fugitive Components	--	2.90	--	--	--	--	--
	25.00	**14.15**	**23.64**	**12.15**	**24.45**	**24.45**	**189,540.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.14	0.28	1.08	0.55	1.12	1.12	8,647.76
Tanks	--	0.07	--	--	--	--	--
Loading Rack	--	0.06	--	--	--	--	--
Fugitive Components	--	0.13	--	--	--	--	--
	1.14	**0.53**	**1.08**	**0.55**	**1.12**	**1.12**	**8,647.76**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	4.56	1.10	4.31	2.22	4.46	4.46	34,591.05
Tanks	--	0.26	--	--	--	--	--
Loading Rack	--	0.24	--	--	--	--	--
Fugitive Components	--	0.52	--	--	--	--	--
	4.56	**2.12**	**4.31**	**2.22**	**4.46**	**4.46**	**34,591.05**

Table 5.3
Careaga Lease: Pt70 Permit to Operate 16033 (Part II)
Careaga Lease Federal Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.04	0.25	0.99	0.51	1.02	1.02	7,897.50
Tanks	--	0.05	--	--	--	--	--
Loading Rack	--	0.17	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	1.04	**0.48**	**0.99**	**0.51**	**1.02**	**1.02**	**7,897.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	25.00	6.04	23.64	12.15	24.45	24.45	189,540.00
Tanks	--	1.21	--	--	--	--	--
Loading Rack	--	4.00	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	25.00	**11.26**	**23.64**	**12.15**	**24.45**	**24.45**	**189,540.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	1.14	0.28	1.08	0.55	1.12	1.12	8,647.76
Tanks	--	0.07	--	--	--	--	--
Loading Rack	--	0.06	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	1.14	**0.41**	**1.08**	**0.55**	**1.12**	**1.12**	**8,647.76**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion Equipment	4.56	1.10	4.31	2.22	4.46	4.46	34,591.05
Tanks	--	0.26	--	--	--	--	--
Loading Rack	--	0.24	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	4.56	**1.61**	**4.31**	**2.22**	**4.46**	**4.46**	**34,591.05**

Table 5.4
Careaga Lease: Pt70 Permit to Operate 16033 (Part I + Part II)
Careaga Lease Total Permitted Facility Emissions (Monterey + Diatomite)

A. HOURLY (lb/hr)

Lease Formation	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Monterey Formation [(a)]	4.61	8.65	11.45	0.19	0.63	3,336.12	3,336.12
Diatomite Formation	1.04	0.48	0.99	0.51	1.02	1.02	7,897.50
TOTAL	**5.65**	**9.13**	**12.44**	**0.70**	**1.65**	**3,337.14**	**11,233.62**

B. DAILY (lb/day)

Lease Formation	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Monterey Formation [(a)]	14.41	115.21	51.11	0.94	2.78	2.78	15588.68
Diatomite Formation	25.00	11.26	23.64	12.17	24.45	24.45	189540.00
TOTAL	**39.41**	**126.47**	**74.75**	**13.11**	**27.23**	**27.23**	**205,128.68**

C. QUARTERLY (tpq)

Lease Formation	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Monterey Formation [(a)]	0.20	4.45	0.75	0.01	0.04	0.04	30,277.98
Diatomite Formation	1.14	0.41	1.08	0.56	1.12	1.12	8,647.76
TOTAL	**1.34**	**4.86**	**1.83**	**0.57**	**1.16**	**1.16**	**38,925.74**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Monterey Formation [(a)]	0.20	16.69	0.75	0.01	0.04	0.04	30277.98
Diatomite Formation	4.56	1.61	4.31	2.22	4.46	4.46	34,591.05
TOTAL	**4.76**	**18.30**	**5.06**	**2.23**	**4.50**	**4.50**	**64,869.03**

Note
(a) Monterey Formation emissions include emissions from equipment shared between the Monterey and Diatomite projects.

Table 5.5-1
Careaga Lease (Diatomite): Pt70 Permit to Operate 16033
Equipment Hazardous Air Pollutant Factors

Equipment Category	Description	Dev No	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Acetaldehyde	Acrolein	Benzene	Ethyl Benzene	Formaldehyde	n-Hexane	PAHs	Toluene	Iso-Octane	Xylenes	Units	References
Combustion Equipment	Steam Generator[1]	115058	1.78E-07	1.07E-08	9.80E-07	1.25E-06	7.49E-08	4.46E-07	3.39E-07	2.32E-07	1.87E-06	2.14E-08	2.05E-06	2.76E-06	2.41E-06	5.17E-06	6.15E-06	1.10E-05	4.10E-06	3.57E-07	2.36E-05	--	1.76E-05	lb/MMBtu	A,B[2]
	Thermal Oxidizer[1]	386087	1.78E-07	1.07E-08	9.80E-07	1.25E-06	7.49E-08	4.46E-07	3.39E-07	2.32E-07	1.87E-06	2.14E-08	2.05E-06	3.83E-05	8.91E-06	1.42E-04	1.29E-03	1.04E-03	2.58E-05	1.25E-05	5.17E-05	--	2.58E-05	lb/MMBtu	B[2],C
Tanks	Wash Tank[3]	115073	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Shipping Tank[3]	115079	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Shipping Tank[3]	115077	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
	Wastewater Tank[3]	115076	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	D
Loading Rack	Loading Rack	115025	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0271	--	--	0.0531	--	0.0158	0.00452	--	lb/lb-ROC	G
Fugitive Components (a)	Diatomite Fugitives[4]	115086	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00256	--	--	0.253	--	--	0.2225	--	lb/lb-ROC	E

References:
A - Ventura County Air Pollution Control District. May 2001. *AB 2588 Combustion Emission Factors*. Natural Gas Fired External Combustion Equipment Table - 10-100 MMBTUh.
B - USEPA. July 1998. *AP-42 Chapter 1.4*. Table 1.4-4: Emission Factors for Metals from Natural Gas Combustion.
C - Ventura County Air Pollution Control District. May 2001. *AB 2588 Combustion Emission Factors*. Natural Gas Fired External Combustion Equipment Table - flare.
D - California Air Resources Board. August 1991. *Identification of Volatile Organic Compound Species Profiles*. Profile #297: Crude Oil Evaporation – Vapor Composite from Fixed Roof Tanks.
E - California Air Resources Board. August 1991. *Identification of Volatile Organic Compound Species Profiles*. Profile #756: Oil & Gas Production Fugitives – Liquid Service.
F - Santa Barbara County APCD: For HAP calculations, solvents are assumed to contain 5% benzene, 5% toluene and 5% xylenes.

Notes:
1. The emission factors, originally in units of lb/MMcf, were converted to lb/MMBtu using the heat content of 1,122 Btu/cf from the permit application.
2. The lead emission factor is from AP-42 Table 1.4-2: Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion.
3. The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using the District's default ROC/TOC fraction of 0.885 for crude oil.
4. The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.391 from Table 3.2.3 of the District's P&P 6100.060.

Table 5.5-2
Careaga Lease (Diatomite): Pt70 Permit to Operate 16033
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Acetaldehyde	Acrolein	Benzene	Ethyl Benzene	Formaldehyde	n-Hexane	PAHs	Toluene	Iso-Octane	Xylenes
Combustion Equipment	Steam Generator	115058	2.07E-05	1.24E-06	1.14E-04	1.45E-04	8.69E-06	5.17E-05	3.93E-05	2.69E-05	2.17E-04	2.48E-06	2.38E-04	3.21E-04	2.79E-04	6.00E-04	7.14E-04	1.27E-03	4.76E-04	4.14E-05	2.74E-03	--	2.04E-03
	Thermal Oxidizer	386087	3.20E-05	1.92E-06	1.76E-04	2.24E-04	1.34E-05	8.00E-05	6.08E-05	4.16E-05	3.36E-04	3.84E-06	3.68E-04	6.88E-03	1.60E-03	2.54E-02	2.31E-01	1.87E-01	4.64E-03	2.24E-03	9.28E-03	--	4.64E-03
Tanks	Wash Tank	115073	--	--	--	--	--	--	--	--	--	--	--	--	--	3.99E-06	--	--	7.82E-06	--	2.33E-06	6.66E-07	--
	Shipping Tank	115079	--	--	--	--	--	--	--	--	--	--	--	--	--	2.44E-03	--	--	4.78E-03	--	1.42E-03	4.07E-04	--
	Shipping Tank	115077	--	--	--	--	--	--	--	--	--	--	--	--	--	2.44E-03	--	--	4.78E-03	--	1.42E-03	4.07E-04	--
	Wastewater Tank	115076	--	--	--	--	--	--	--	--	--	--	--	--	--	2.17E-03	--	--	4.25E-03	--	1.27E-03	3.62E-04	--
Loading Rack	Loading Rack	115025	--	--	--	--	--	--	--	--	--	--	--	--	--	6.51E-03	--	--	1.27E-02	--	3.80E-03	1.08E-03	--
Fugitive Components (a)	Diatomite Fugitives	115086	--	--	--	--	--	--	--	--	--	--	--	--	--	1.33E-03	--	--	1.32E-01	--	--	1.16E-01	--
	Total HAPs (TPY)		**5.27E-05**	**3.16E-06**	**2.90E-04**	**3.69E-04**	**2.21E-05**	**1.32E-04**	**1.00E-04**	**6.85E-05**	**5.53E-04**	**6.32E-06**	**6.06E-04**	**7.20E-03**	**1.88E-03**	**4.09E-02**	**2.32E-01**	**1.88E-01**	**1.63E-01**	**2.28E-03**	**1.99E-02**	**1.18E-01**	**6.68E-03**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

Table 5.5-3
Pacific Coast Energy Company- Orcutt Hill
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Formaldehyde	n-Hexane	Acetaldehyde	Benzene	Toluene	PAHs	Acrolein	Xylenes	Ethyl Benzene	Iso-Octane	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Vanadium	Biphenyl	1,3-Butadiene	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,3-Dichloropropylene	Carbon Tetrachloride	Chlorobenzene	Chloroform	Ethylene Dibromide	Hydrochloric Acid	Lead	Methylene Chloride	Mercaptans	Phenol	Styrene	Vinyl Chloride	Total - All HAPS
1517 - Careaga Lease	PTO 16033 (Part II Diatomite)	1.57E-03	1.72E+00	5.60E-04	4.21E-01	2.57E-01	4.34E-05	2.68E-05	3.86E-05	4.59E-04	8.68E-01	1.18E-06	3.75E-09	1.39E-06	8.56E-07	2.63E-08	2.28E-06	1.48E-06	3.38E-06	1.54E-06	7.19E-07	--	1.52E-04	--	--	--	--	1.39E-07	--	--	1.30E-04	5.95E-06	--	--	--	--	--	**3.27E+00**
1904 - Orcutt Hill Field (MVFF)	PTO 15258 - R2	--	9.98E-04	--	2.79E-04	1.13E-03	2.03E-05	--	9.37E-04	1.95E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.56E-03**
3206 - Cal Coast Lease (Orcutt Hill)	PTO 8226-R13	--	5.41E-01	--	4.54E+00	4.51E+00	--	--	4.47E+00	--	2.75E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.43E+01**
3212 - Arellanes Lease	PTO 8976-R11	--	2.87E-01	--	4.19E-02	2.49E-02	--	--	--	--	1.90E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.44E-01**
3303 - Morganti Lease	PTO 8096-R12	2.40E-02	1.16E+00	8.84E-04	2.17E-01	1.29E-01	2.88E-04	2.06E-04	6.05E-04	2.97E-02	6.93E-01	4.18E-06	2.51E-07	2.30E-05	2.93E-05	1.76E-06	7.94E-06	5.43E-06	4.39E-05	5.02E-07	4.81E-05	--	--	--	--	--	--	--	--	--	--	1.04E-05	--	--	--	--	--	**2.25E+00**
3304 - Muscio Lease	PTO 8980-R10	--	7.19E-02	--	1.05E-02	6.22E-03	--	--	--	--	4.74E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.36E-01**
3313 - Fox Lease	PTO 8514-R12	--	2.50E-01	--	3.03E-03	5.00E-04	--	--	5.00E-04	--	1.47E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.01E-01**
3314 - Dome Lease	PTO 9000-R10	--	4.24E-01	--	2.88E-02	1.58E-02	--	--	5.00E-04	--	2.20E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**6.89E-01**
3315 - Escolle Lease	PTO 16207	7.09E-05	7.79E-01	1.79E-05	8.20E-02	4.88E-02	1.67E-06	1.13E-05	5.11E-03	3.96E-05	5.75E-01	8.34E-07	5.01E-08	4.59E-06	5.84E-06	3.50E-07	1.59E-06	1.08E-06	8.76E-06	1.00E-07	9.59E-06	--	--	--	--	--	--	--	--	--	--	2.09E-06	--	--	--	--	--	**1.49E+00**
3316 - Folsom Lease	PTO 9026-R10	--	4.96E-01	--	3.43E-02	1.89E-02	--	--	5.00E-04	--	2.62E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**8.12E-01**
3318 - Gracissa Lease	PTO 9028-R10	--	1.33E-01	--	6.65E-03	3.56E-03	--	--	5.00E-04	--	7.35E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.18E-01**
3319 - Hartnell Lease	PTO 9029-R10	--	6.53E-01	--	3.30E-02	1.68E-02	--	--	5.00E-04	--	3.69E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.07E+00**
3320 - Hobbs Lease	PTO 9027-R10	--	4.34E-01	--	3.37E-02	1.89E-02	--	--	5.00E-04	--	2.26E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7.13E-01**
3321 - Newlove Lease	PTO 8240-R12 (Part II Diatomite)	9.62E-03	1.01E+00	2.42E-03	3.27E-02	2.61E-02	5.48E-04	2.11E-03	1.54E-02	5.40E-03	8.82E-01	1.56E-04	9.39E-06	8.60E-04	1.10E-03	6.57E-05	2.97E-04	2.03E-04	1.64E-03	1.88E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.99E+00**
3322 - Pinal Lease	PTO 8502-R11	--	7.24E-01	--	7.90E-02	4.50E-02	--	--	5.00E-04	--	4.51E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.30E+00**
3323 - Rice Ranch Lease (Orcutt Hill)	PTO 9035-R10	--	6.28E-02	--	1.13E-03	5.00E-04	--	--	5.00E-04	--	3.68E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.02E-01**
3324 - Squires Lease	PTO 8223-R12	--	9.87E-01	--	9.66E-02	5.56E-02	--	--	5.00E-04	--	4.97E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.64E+00**
3495 - Getty Hobbs Lease (Orcutt Hill)	PTO 9031-R10	--	7.26E-02	--	6.03E-03	3.56E-03	--	--	5.00E-04	--	3.77E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.20E-01**
3948 - Righetti Lease	PTO 16215	--	7.34E-02	--	1.54E-02	1.11E-02	--	--	5.00E-03	--	4.91E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.54E-01**
4104 - Orcutt Hill Compressor Plant	PTO 8174-R10	3.55E-05	4.48E-01	8.97E-06	2.36E-02	5.76E-04	1.46E-06	5.63E-06	5.57E-04	1.98E-05	--	4.17E-07	2.50E-08	2.29E-06	2.92E-06	1.75E-07	7.93E-07	5.42E-07	4.38E-06	5.01E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.73E-01**
4214 - Orcutt Hill IC Engines	PTO 8039-R12	1.65E+00	3.19E-03	2.85E-01	1.32E-01	5.11E-02	9.80E-02	1.92E-01	1.84E-02	2.99E-03	4.65E-04	1.75E-04	--	1.64E-04	6.57E-05	--	3.39E-04	2.19E-04	4.27E-04	2.41E-04	--	2.17E-06	7.06E-02	1.81E-03	1.10E-03	9.12E-04	1.27E-03	9.48E-04	9.84E-04	1.53E-03	2.04E-02	9.09E-04	2.96E-03	2.15E-01	2.32E-05	8.62E-04	5.16E-04	**2.76E+00**
4216 - Casmalia IC Engines	PTO 16216	1.34E-01	--	1.83E-02	1.04E-02	3.66E-03	1.56E-03	1.72E-02	1.28E-03	1.63E-04	--	--	--	--	--	--	--	--	--	--	--	--	4.34E-03	1.66E-04	1.00E-04	8.32E-05	1.16E-04	8.48E-05	8.98E-05	1.40E-04	--	--	2.70E-04	2.01E-02	--	7.80E-05	4.70E-05	**2.12E-01**
4501 - N.R. Bonetti Lease (Casmalia)	PTO 16217	--	2.20E-01	--	3.61E-02	2.34E-02	--	--	5.00E-03	--	1.47E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.32E-01**
10482 - Orcutt Hill - Steam Generators	PTO 11405-R6	1.18E-03	6.99E-02	2.97E-04	2.40E-03	3.04E-03	6.72E-05	2.59E-04	2.39E-03	6.62E-04	6.19E-02	1.92E-05	1.15E-06	1.06E-04	1.34E-04	8.06E-06	3.65E-05	2.49E-05	2.01E-04	2.30E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.43E-01**
11593 - Escolle Lease - Amrich	PTO 16208	7.47E-03	2.36E-01	2.75E-04	2.32E-02	1.37E-02	8.94E-05	6.39E-05	5.19E-03	9.22E-03	1.87E-01	1.28E-06	7.66E-08	7.03E-06	8.94E-06	5.36E-07	2.43E-06	1.66E-06	1.34E-05	1.53E-07	1.47E-05	--	--	--	--	--	--	--	--	--	--	3.19E-06	--	--	--	--	--	**4.83E-01**
	Total Stationary Source - By Pollutant	**1.83E+00**	**1.09E+01**	**3.08E-01**	**5.91E+00**	**5.29E+00**	**1.01E-01**	**2.12E-01**	**4.54E+00**	**4.88E-02**	**6.29E+00**	**3.59E-04**	**1.09E-05**	**1.17E-03**	**1.34E-03**	**7.66E-05**	**6.88E-04**	**4.57E-04**	**2.34E-03**	**2.64E-04**	**7.31E-05**	**2.17E-06**	**7.51E-02**	**1.97E-03**	**1.20E-03**	**9.95E-04**	**1.39E-03**	**1.03E-03**	**1.07E-03**	**1.67E-03**	**2.05E-02**	**9.30E-04**	**3.23E-03**	**2.35E-01**	**2.32E-05**	**9.40E-04**	**5.63E-04**	**3.57E+01**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

Table 5.6 Thermal Oxidizer and Steam Generator Source Test Requirements

Emission & Limit Test Points	Pollutants	Parameters	Test Methods [(a)]
Thermal Oxidizer 1 and Steam Generator SG-100 Exhaust Stacks [(b)(c)(d)(e)]	NO_x	ppmv, lb/hr	EPA Method 7E, ARB 100
	CO	ppmv, lb/hr	EPA Method 10, ARB 100
	ROC	ppmv, lb/hr	EPA Method 18 (or USEPA Method 25 for thermal oxidizer)
	Sampling Point Det.		EPA Method 1
	Stack Gas Flow Rate		EPA Method 2 or 19
	O_2, CO_2, Dry MW		EPA Method 3
	Moisture Content		EPA Method 4
	Stack Temperature	^oF	Calibrated Thermocouple
Fuel Gas	Fuel Gas Flow Rate		Fuel Gas Meter [(f)]
	Higher Heating Value	Btu/scf	ASTM D 1826 or 3588
	Total Sulfur Content	ppmw	ASTM D 1072 or 5504
	Gas Composition	CHONS%, F-factor	ASTM 1945

Notes:

(a) Alternative methods may be acceptable on a case-by-case basis.

(b) The emission rates shall be based on EPA Methods 2 and 4, or Method 19 along with the heat input rate.

(c) For NO_x, CO and O_2 a minimum of three 40-minute runs shall be obtained during each test. For ROC, one bag sample shall be obtained per run with a minimum sample time of 20 minutes per sample.

(d) Measured NO_x, ROC and CO shall not exceed the limit specified in the permit.

(e) All emission determinations shall be made in the as-found operating condition, at the maximum attainable firing rate to be approved by the source test plan. No determination shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.

(f) Fuel meter shall meet the calibration requirements prior to testing.

Table 5.7
Best Available Control Technology

Emission Source	Pollutant	BACT Technology	BACT Performance Standard
Steam Generator SG-100	NO_x	Low-NO_x burners, flue gas recirculation	NO_x emissions no greater than 9 ppmv at 3% O_2, 0.0101 lb-NO_x/MMBtu
Steam Generator	ROC	Low-NO_x burners, flue gas recirculation	ROC emissions no greater than 7 ppmv at 3% O_2, 0.0027 lb-ROC/MMBtu
Steam Generator	SO_x	Continuously operating sulfur scrubber achieving 95% control by weight	Limit sulfur in fuel gas to 50 ppmv, 0.0075 lb-SO_x/MMBtu
Thermal Oxidizer 1	NO_x	Low- NO_x burners, 1,750 °F – 1,950 °F operating range.	NO_x stack concentration of 15 ppmvd at 3% O_2 or a NO_X stack emission rate of 0.0183 lb/MMBtu.
Fugitive Comps – PRD	ROC	Low- NO_x burners, 1,750 °F – 1,950 °F operating range.	ROC stack concentration of 10 ppmvd at 3% O_2 or a ROC stack emission rate of 0.0042 lb/MMBtu measured as methane.
Fugitive Comps – Other	SO_x	Flare Gas Sulfur Removal System	Limit sulfur in fuel gas to 50 ppmv, 0.0075 lb-SO_x/MMBtu
Loading Rack	ROC	Vented to a vapor recovery system.	95% VRS efficiency
Wash Tank	ROC	Vented to a vapor recovery system.	95% VRS efficiency
Wastewater Tank	ROC	Vented to a vapor recovery system.	95% VRS efficiency
Shipping Tank	ROC	Vented to a vapor recovery system.	95% VRS efficiency
Shipping Tank	ROC	Vented to a vapor recovery system.	95% VRS efficiency
Fugitive Components: Valves	ROC	Spring-loaded packing; expandable packing; graphite packing; PTE-coated packing; precision machine stem, or sealant injection.	1,000 , 90% emission control
Fugitive Components: Flange Connections	ROC	Welded or new gasket rated to 150% of process pressure at process temperature	Leak detection and repair rate (LDAR) of 100 ppmv THC or less, 90% emission control
Fugitive Components: Pump Seals	ROC	Vented to vapor recovery or closed vent; dual/tandem mechanical seals; o-ring seals; dry-running secondary containment seals; leak less designs (e.g. magnetic drive)	Leak detection and repair rate (LDAR) of 500 ppmv THC or less, 90% emission control
Fugitive Components: Compressor Seals (Rotary Drives)	ROC	Vented to a vapor recovery system.	PRDs that are vented to vapor recovery or closed vent system are not subject to LDAR

Fugitive Components: Pressure Relief Valves	ROC	Vented to a vapor recovery system.	PRDs that are vented to vapor recovery or closed vent system are not subject to LDAR

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for this stationary source.

6.2 Increments

An air quality increment analysis has not been required for this stationary source.

6.3 Monitoring

Air quality monitoring is not required for this stationary source.

6.4 Health Risk Assessment

6.4.1 The Orcutt Hill and Casmalia Oil Fields Stationary Source is subject to the Air Toxics "Hot Spots" Program (AB 2588). A health risk assessment (HRA) for the Orcutt Hill facilities was prepared by the District on September 28, 1993 under the requirements of the AB 2588 program. The HRA is based on 1991 toxic emissions inventory data submitted to the District by Luft Environmental Consulting on behalf of the Unocal Corporation, the previous owners of the Orcutt Hill stationary source.

Based on the 1991 toxic emissions inventory, a cancer risk of about 5 per million at the property boundary was estimated for this stationary source. This risk is primarily due to benzene emitted from storage tanks at the site. Additionally, chronic and acute noncarcinogenic risks of 0.3 and 0.2 have been estimated by the District and are mainly due to acrolein emissions from internal combustion engines. Approximately 3,663 pounds of benzene and about 317 pounds of acrolein were emitted from the entire stationary source in 1991. The cancer and noncancer risk projections are less than the District's AB 2588 significance thresholds of 10 in a million and 1.0, respectively.

A second health risk assessment (HRA), based on the 2005 toxics emissions inventory, was prepared for the Orcutt Hill facilities in conjunction with the Diatomite Project permit. This HRA was revised in January 2009, to reflect the current status of electrification of injection pump engines and engine locations. The results of this HRA are provided below:

Pathway	Health Impact Type	HARP Receptor Number	HARP Receptor Type	UTM Easting (NAD83, m)	UTM Northing (NAD83, m)	Heath Risk	Significant Risk Level
Inhalation Only	Cancer	12024	Boundary	735210	3858241	8.73	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1
Multi Pathway	Cancer	12024	Boundary	735210	3858241	9.80	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1

6.4.2 In March 2016, an Air Quality Impact Analysis (AQIA) was conducted by the Santa Barbara County Air Pollution Control District (District) on behalf of Santa Maria Energy, LLC for the installation of their permanent production facility for the diatomite oil formation. The AQIA was conducted using the AERMOD dispersion model, Version 15181. Offsite CO, NO_2, and ROC ground level concentration values were modeled and combined with the ambient background concentrations. The modeled concentrations were compared to the Air Quality Increments and

the total concentrations were compared to the Ambient Air Quality Standards specified in Table 3 *Air Quality Increments* of the District's Rule 803 (note: the District's rules have been updated since the issuance of ATC 13986), with updates from the Air Resources Board's *Ambient Air Quality Standards* (available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf). The maximum calculated concentrations are shown below. Based on these results, the proposed permanent production facility at the Santa Maria Energy Orcutt Hill Oilfield will not exceed an Ambient Air Quality Standard (AAQS). However, this project consumes part of the allowable increment for ROC in a Class II area. District rules allow for the consumption of any amount above the lower end of this increment if mitigation is implemented. For this project, the amount above the lower end of the ROC increment will be mitigated via an increment fee of $333/ug/m^3. This fee is implemented over a 10 year period, being reduced 10 percent each year. The complete AQIA files are available for review in the project's administrative files.

Ambient Air Quality Standard Modeling Results

Pollutant	Averaging Period	Modeled Conc. ($\mu g/m^3$)	Ambient Background ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	AAQS ($\mu g/m^3$)
CO	1-hour	122.50	3,320.3	3,442.8	23,000
	8-hour	30.25	1,373.9	1,404.1	10,000
NO_2	1-hour	93.30	90.3	183.6	188
	Annual	0.25	13.6	13.9	57

Air Quality Increment Analysis Results

Pollutant	Averaging Period	Class I Modeled Impact ($\mu g/m^3$)	Class I Air Quality Increment[2] ($\mu g/m^3$)	Class II Modeled Impact ($\mu g/m^3$)	Class II Air Quality Increment ($\mu g/m^3$)
CO	1 hr	1.60	800	122.50	10,000
CO	8 hr	0.14	200	30.25	2,500
NO_2	1 hr	0.91	10	93.30	100-188
NO_2	Annual	0.0005	2.5	0.25	25
ROC	3 hr	0.39	3	91.79	40-160

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County has not attained the state PM_{10} air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress toward attainment of federal and state ambient air quality standards. Under District regulations, any modifications at the source that result in an emission increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Increases above offset thresholds will trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 240 lbs/day for all attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$) and 25 tons/year for all non-attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$).

On July 1, 2020, Santa Barbara County achieved attainment for the State ozone standards. This change was initiated by the California Air Resources Board (CARB) at their December 2019 public hearing and it was later approved by the Office of Administrative Law.

7.2 Clean Air Plan

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

In December 2022 the District Board adopted the 2022 Ozone Plan. The 2022 Plan provides a three-year update to the 2019 Clean Air Plan. The 2022 Clean Air Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

The Orcutt Hill and Casmalia Oil Fields Stationary Source triggers emission offsets for NOx and ROCs. Tables 7.3-1, 7.3-2 document historical NOx and ROC emission offsets prior to the District's NSR Rule revision on August 25, 2016. Tables 7.3(a) and 7.3(b) summarize the emissions and offset totals for this stationary source. This initial PT-70 permit is required due to the transfer of owner/operator and inclusion of the Careaga Lease into the PCEC Stationary Source, however no new emissions are authorized, as a result offsets are not required for this permitting action.

TABLE 7.3-1
NOx Emissions and ERCs Used
Pacific Coast Energy Orcutt Hill

PROJECT/ PERMIT	Issuance Date	NOx TPY	ERC Certificate
I.C. Engines From Previous Permits (P8039-R6)	29-Mar-09	0.239	249 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	1.670	249 [(a)(b)]
Newlove Diatomite Project (A12084-03)	5-Nov-10	6.020	249 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	15-Jun-12	1.090	249, [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	2.338	249 [(a)(b)]
		11.357	

	Emission Reduction Credits Used TPY	Distance Factor	Emission Liability TPY
NOx ERCs	13.628	1.2	11.357
TOTAL	**13.628**		**11.357**

Notes:

(a) ERCs are used to offset NOx emissions with a 1.2 distance factor.
ERCs are created from within the same stationary source,

(b) ERCs generated from the electrification of seventeen gas fired engines at the Orcutt Hill Stationary Source.

(c) Emission units: TPQ = tons per quarter; TPY = tons per year.

(d) ERCs from ATC 13000 are still is use despite the cancellation of the permit due to Rule 806.

TABLE 7.3-2
ROC Emissions and ERCs Used
Pacific Coast Energy Orcutt Hill

PROJECT/PERMIT	Issuance Date	ROC TPY	ERC Certificate
Pinal Replace 3,000 Bbl Wash Tank (P10752)	2-Jan-02	0.010	172 [(a)(b)]
Cal Coast Replace 2000 bbl Crude Tank (P10934)	10-Jun-03	0.120	172 [(a)(b)]
Cal Coast 750 Bbl Wash Tank (P10833)	25-Jun-03	0.070	172 [(a)(b)]
Cal Coast 750 Bbl Wastewater Tank (P11191)	12-Jul-04	0.140	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to Sulfur Scrubber (P11580)	25-Jul-05	0.090	172 [(a)(b)]
Orcutt MVFF (A11666)	27-Jul-05	0.040	172 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	29-Mar-06	0.770	172 [(a)(b)]
I.C. Engines NEI From Previous Permits (P8039-R6)	29-Mar-06	0.010	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to a Sulfur Scrubber (A12032)	5-Jun-07	0.010	172 [(a)(b)]
Compressor Plant New VRU & Component Update (A12767)	8-Aug-08	1.100	172 [(a)(b)]
Newlove Four New Wells (A13141)	16-Apr-09	0.040	172 [(a)(b)]
Newlove Throughput Increase (A13134)	15-Jun-09	0.170	172 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	0.235	172 [(a)(b)(g)]
Compressor Plant Replaced Road Oil Tank with a Wastewater Tank (A13161)	18-Aug-09	0.110	172 [(a)(b)]
Squires Convert Liquid Knockout to a Sulfur Scrubber (A13296)	20-Nov-09	0.160	172 [(a)(b)]
Newlove Twenty-nine New Sx Sand Wells (A13140)	2-Dec-09	2.240	172 [(a)(b)]
Newlove Five Sx Wells (P13230) [(f)]	29-Dec-09	0.405	172 [(a)(b)]
Newlove New Sulfur Scrubber (A13397)	16-Jun-10	0.180	172 [(a)(b)]
Newlove Loading Rack (A13513) [(e)]	4-Nov-10	0.095	172 [(a)(b)]
Cal Coast Loading Rack & Throughput Increase (A13514) [(e)]	4-Nov-10	0.129	172 [(a)(b)]
Pinal Loading Rack & Throughput Increase (A13539) [(e)]	4-Nov-10	0.023	172 [(a)(b)]
Newlove Diatomite Project (A12084-03)	15-Nov-10	5.290	172 [(a)(b)]
I.C. Engines New 80 bhp Backup Generator for the Field Office (A13592) [(e)]	3-Feb-11	0.001	237 [(a)(b)]
Hartnell New H2S Scrubber at K7 (A13408)	3-May-11	0.230	172 [(a)(b)]
Newlove Vacuum Truck Washout Station (A13368)	10-Nov-11	0.889	172 [(a)(b)]
Newlove Replace 3,000 Bbl Wash Tank (A13948)	27-Sep-12	0.000	172 [(a)(b)]
Orcutt Compressor Plant H2S Scrubber Replacement (A13902)	7-Dec-12	0.170	270 [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	3.753	270 [(a)(b)]
Newlove Lease Backup Vapor Recovery Unit (A14019)	15-Apr-13	0.179	270 [(a)(b)]
Cal Coast Lease Vapor Recovery Compressors (A14179-01)	11-Dec-14	0.018	296 [(a)(b)]
Pinal Lease Vapor Recovery Compressors (A14180-01)	11-Dec-14	0.073	296 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.240	269 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.043	296 [(a)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.167	270 [(a)]
Orcutt Hill Compressor Plant Pressure Vessel Replacement (A14343)	10-Mar-14	0.176	288 [(a)]
Newlove Lease Tank, Separators, and Heat Exchangers (A14385)	14-Oct-14	0.790	345 [(a)(b)]
Orcuttt Hill Compressor Plant Pressure Vessek Replacement (AM 14343-01)	28-Oct-14	0.081	329 [(a)(b)]
Cal Coast Lease Replacement Crude Oil Tank (AM 14223-01)	13-Jan-15	0.100	269 [(a)(b)]
		18.347	

	TPY	Distance Factor	Emission Liability TPY
ROC ERCs	3.304	1.2	2.753
NOx ERCs	18.745	1.2	15.621
TOTAL	**22.049**		**18.374**

Notes:

(a) ERCs are used to offset ROC emissions with a 1.2 distance factor.
ERCs are created from within the same stationary source,
The offset ratio of 1.2 is used per Rule 802 Table 4.

(b) Interpollutant trade. NOx ERCs used to offset ROC emissions with a 1.0 interpollutant trade factor.

(c) ERCs generated from the electrification of seventeen gas fired engines at the Orcutt Hill Stationary Source.

(d) Emission units: TPQ = tons per quarter; TPY = tons per year.

(e) TPQ is not equal to TPY/4 per ATC applications 13513, 13514, 13539, & 13592

(f) This value also corrects an error in the ATC 13230 offset table.
In the ATC 13230 offset table only the emissions from components in gas service were offset.
The emissions from the components in oil service and in gas service should have been offset.

(g) ERCs from ATC 13000 are still is use despite the cancellation of the permit due to Rule 806.

(h) The NEI for ATC 14179-01 is lower than the PPTE since the permit includes a D term.

(i) The NEI for ATC 14180-01 is lower than the PPTE since the permit includes a D term.

(j) Adjusted the NEI for ATC 14223 since the tank was changed from a crude storage tank to a wash tank. Fugitives also added.

Table 7.3(a) - Offset Liability Table for PCEC Orcutt Hill and Casmalia Oil Fields Stationary Source
Updated: January 30, 2024

Item	Permit	Facility	Issue Date	ERC Returned?	Project	Offset Liability ---- tons/year ---- NO_X	ROC	ERC Source	Notes
1	Prior Offset Liabilities	Various	pre-8/2016	n/a	See Archive Offset Tables	11.357	18.348	Various	(a)
2	ATC 14921	Pinal Lease	03/09/17	No	Wash Tank Replacement	0.000	0.440	ERC 301	(b)
3	ATC/PTO 15256	Orcutt Hill Field (MVFF)	11/30/18	No	MVFF Throughput Increase	0.000	0.013	ERC 462	
4	ATC 15506	Newlove Lease	07/30/20	No	Wash Tank Replacement	0.000	0.270	ERC 507	
5	ATC 15980	Cal Coast Lease (Orcutt Hill)	04/27/23	No	Wash Tank Replacement	0.000	0.090	ERC 565	(b)
6	ATC 16040	Pinal Lease	07/12/23	No	Produced Water Tank Replacement	0.000	0.196	ERC 548	(b)
7	ATC 16121	Newlove Lease	TBD	No	Wash Tank Replacement	0.000	0.128	ERC 640	(b)
					TOTALS (tpy) =	11.357	19.485		

Notes
(a) Pre-August 26, 2016 offset liabilities are summarized in Items (1). See facility Archive Offset Tables for details.
(b) NOx for ROC Interpollutant trade.
(c) See Table 1(b) for ERCs required to mitigate the offset liability. ERC Source denotes the ERC Certificate # used by the ATC permit.
(d) Permits with zero emission increases not shown in this table.

\\Nt\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 02667 Pacific Coast Energy Orcutt Hill\Offsets\[Post 2016 NSR Rule Change PCEC Orcutt Hill Offset- ERC Table - (04- 03- 23).xlsx]Table 1(b) - ERCs

Table 7.3(b) - Emission Reduction Credits Table for PCEC Orcutt Hill and Casmalia Oil Fields Stationary Source
Updated: January 30, 2024

Item	Permit	Facility	Surrender Date	ERC Returned?	Emission Reduction Credits ---- tons/year ---- NO_X	ROC	Offset Ratio	ERC Source	NOTES
1	Prior Offset Liabilities	Various	pre-8/2016	n/a	13.628	22.017	varied	Various	(a)(b)
2	ATC 14921	Pinal Lease	03/09/17	No	0.000	0.484	1.1	ERC 301	(a)(b)(c)
3	ATC/PTO 15256	Orcutt Hill Field (MVFF)	11/30/18	No	0.000	0.014	1.1	ERC 462	(a)(b)
4	ATC 15506	Newlove Lease	07/30/20	No	0.000	0.297	1.1	ERC 507	(a)(b)
5	ATC 15980	Cal Coast Lease (Orcutt Hill)	04/27/23	No	0.000	0.099	1.1	ERC 565	(a)(b)(c)
6	ATC 16040	Pinal Lease	01/17/23	No	0.000	0.215	1.1	ERC 548	(a)(b)(c)
7	ATC 16121	Newlove Lease	TBD	No	0.000	0.141	1.1	ERC 640	(a)(b)
				TOTALS (tpy) =	13.628	23.268			

Notes
(a) Items 1 reflects all NSR ERCs used for the PCEC Orcutt Hill stationary source facilities prior to August 26, 2016. See the August 26, 2016 Archive Offset Tables for details.
(b) Brown text cells require data entry. Do not enter data in Black text cells
(c) NOx for ROC interpollutant trade.

\\Nt\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 02667 Pacific Coast Energy Orcutt Hill\Offsets\[Post 2016 NSR Rule Change PCEC Orcutt Hill Offset- ERC Table - (04- 03- 23).xlsx]Table 1(b) - ERCs

7.4 Emission Reduction Credits

Emission offsets are not required for the emissions associated with the Careaga because the Orcutt Hill Stationary Source triggered emission offsets prior to the Careaga Lease becoming part of this stationary source.

8.0 Lead Agency Permit Consistency

To the best of the District's knowledge, no other governmental agency's permit requires air quality mitigation.

9.0 Permit Conditions

This section lists the applicable permit conditions for the Careaga Lease. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Section D lists non-federally-enforceable (i.e., District only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the District, the State of California and the public. Conditions listed in Section D are enforceable only by the District and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the Careaga Lease:

A.1 **Compliance with Permit Conditions.**

(a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.

(b) This permit does not convey property rights or exclusive privilege of any sort.

(c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

(d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.

(f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:

(i) compliance with the permit, or
(ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. [*Re: 40 CFR Part 70.6, District Rules 1303.D.1]*

(g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

A.2 **Compliance Plan.**

(a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in the Compliance Plan.

(b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards. [*Re: District Rule 1302.D.2*]

A.3 **Right of Entry.**
The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

(a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;

(b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;

(c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [*Re: District Rule 1303.D.2*]

A.4 **Permit Life.**
The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules.

The permittee shall apply for renewal of the Part 70 permit not later than 6-months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [*Re: District Rule 1304.D.1*]

A.5 **Payment of Fees.**
The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part

70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6*]

A.6 **Prompt Reporting of Deviations.**
The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*. [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]

A.7 **Reporting Requirements/Compliance Certification.**
The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. A paper copy, as well as a complete PDF electronic copy of these reports, shall be in a format approved by the District. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Monitoring/Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports.
[*Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c*]

A.8 **Federally-Enforceable Conditions.**
Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. [*Re: CAAA, § 502(b)(6), 40 CFR 70.6*]

A.9 **Recordkeeping Requirements.**
Records of required monitoring information shall include the following:

(a) The date, place as defined in the permit, and time of sampling or measurements;
(b) The date(s) analyses were performed;
(c) The company or entity that performed the analyses;
(d) The analytical techniques or methods used;
(e) The results of such analyses; and
(f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [*Re: District Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)*]

A.10 **Conditions for Permit Reopening.**
The permit shall be reopened and revised for cause under any of the following circumstances:

(a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

(b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

(c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists.

If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [*Re: 40 CFR 70.7, 40 CFR 70.6*]

A.11 **Grounds for Revocation.**
Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 *et seq*.

A.12 **Consistency with Analysis.**
Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

A.13 **Severability.**
In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

A.14 **Compliance.**
Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.

A.15 **Conflict Between Permits.**
The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein

9.B. Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

B.1 **Circumvention (Rule 301).**
A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [*Re: District Rule 301*]

B.2 **Visible Emissions (Rule 302).**
The permittee shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above. [*Re: District Rule 302*]

B.3 **Nuisance (Rule 303).**
No pollutant emissions from any source at the permittee shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. [*Re: District Rule 303*]

B.4 **Specific Contaminants (Rule 309).**
The permittee shall not discharge into the atmosphere from any single source sulfur compounds and combustion contaminants (particulate matter) in excess of the applicable standards listed in Sections A through E of Rule 309. [*Re: District Rule 309*].

B.5 **Organic Solvents (Rule 317).**
The permittee shall comply with the emission standards listed in Rule 317.B. Compliance with this condition shall be based on the permittee's compliance with Condition C.13 of this permit. [*Re: District Rule 317*]

B.6 **Metal Surface Coating Thinner and Reducer (Rule 322).**
The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on the permittee's compliance with Condition C.13 of this permit and facility inspections. [*Re: District Rule 322*]

B.7 **Architectural Coatings (Rule 323.I).**
The permittee shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on the permittee's compliance with Condition C.13 of this permit and facility inspections. [*Re: District Rules 323, 317, 322, 324*]

B.8 **Disposal and Evaporation of Solvents (Rule 324).**
The permittee shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on the permittee's compliance with Condition C.13 of this permit and facility inspections. [*Re: District Rule 324*]

B.9 **Emissions Of Oxides Of Nitrogen From Large Water Heaters and Small Boilers (Rule 360).**
This rule applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of any new water heater, boiler, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 Btu/hour up to and including 2,000,000 Btu/hour. There are no new units at this facility that are subject to this rule.

B.10 **Small Boilers, Steam Generators, and Process Heaters (Rule 361).**
The permittee shall comply with the requirements of District Rule 361: *Small Boilers, Steam Generators, and Process Heaters* whenever a new boiler, process heater or other external combustion device is added or an existing unit is replaced.

B.11 **Emergency Episode Plans (Rule 603).**
During emergency episodes, the permittee shall implement the Emergency Episode Plan dated March 30, 1999. [*Reference District Rule 603*]

B.12 **Adhesives and Sealants (Rule 353).**
The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:

(a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately

(b) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353. *[Re: District Rule 353]*

B.13 **Oil and Natural Gas Production MACT.**
The permittee shall comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage (promulgated June 17, 1999). At a minimum, the permittee shall maintain records in accordance with 40 CFR Part 63, Subpart A, Section 63.10 (b) (1) and (3). *[Re: 40 CFR 63, Subpart HH]*

B.14 **CARB Registered Portable Equipment.**
State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. [*Re: District Rule 202*]

9.C Requirements and Equipment Specific Conditions

This section contains non-generic federally-enforceable conditions, including emissions and operations limits, monitoring, recordkeeping and reporting for each specific equipment group. This section may also contain other non-generic conditions.

C.1 **Petroleum Storage and Processing Tanks.**
The following operational limits and restrictions shall apply:

Dev No	Equipment Name; Capacity
115077	Crude Oil Shipping Tank TK-402 1,000 bbl capacity
115079	Crude Oil Shipping Tank TK-403 1,000 bbl capacity
115073	Wash Tank TK-400 1,000 bbl capacity
115076	Wastewater Tank TK-401 1,000 bbl capacity

(a) Emission Limits: Mass emissions from the tanks shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Limits. The following operational limits shall apply:

(i) *Throughput Limitation*. The following throughput limitations shall not be exceeded:

Diatomite Crude Oil Production [(a)] 1,000 bbl/day

(a) Compliance based on daily operator logs.

(ii) *VRU Use:* All storage tanks shall be connected to a vapor recovery/gas collection (VRGC) system. The VRGC system shall be in operation when the equipment connected to the VRGC system at the facility is in use. The VRGC system includes piping, valves, and flanges associated with the VRGC system. The VRGC system shall be maintained and operated to minimize the release of emissions from all systems, including pressure relief valves and gauge hatches.

(c) Monitoring: The following monitoring requirements shall apply:

(i) The daily volumes of Diatomite oil (bbls) produced from this facility shall be measured through the use of calibrated meters or through the use of a District-approved alternate method. The meters shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.

(ii) On a quarterly basis: (1) the API gravity and, (2) the true vapor pressure (TVP) at the maximum expected temperature of the crude oil at the initial Diatomite tank, or other storage tanks if requested in writing by the District, using ASTM method D 323-82, (if API gravity is equal to or greater than 20 degrees) or the HOST Method (if API gravity is under 20 degrees) shall be measured. Samples of crude oil shall be obtained from an active flow line into each tank, or from the tank, provided that there is an active flow of crude oil into the tank. If ASTM D323 applies, the TVP at the maximum expected temperature shall be calculated from the Reid vapor pressure in accordance with API Bulletin 2518, or equivalent Reid/true vapor pressure correlation. The calculated true vapor pressure shall be based on the maximum expected operating temperature for each Diatomite crude oil storage tank.

(iii) The high heating value (HHV) of the Diatomite produced gas (Btu/scf) shall be measured quarterly in accordance with ASTM D-3588 or a District-approved method. Records shall be kept on site and made available for inspection by the District upon request.

(d) Recordkeeping: The following records shall be maintained by the permittee and shall be made available to the District upon request:

(i) The volume of oil produced each month and the number of days that oil was produced through each tank battery.

(ii) On an annual basis, the API gravity and true vapor pressure.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.2 **Fugitive Hydrocarbon Components.**
The following operational limits and restrictions shall apply:

District No.	Equipment
Component Leak Path Components	
115086	Oil/Gas Valves, Connections, pumps, etc.

(a) Emission Limits: Fugitive emission limits are not federally-enforceable.

(b) Operational Limits: The following operational limits shall apply:

(i) *VRS Use:* The vapor recovery system shall be connected to each piece of equipment identified in this permit as being connected to the vapor recovery system, and operating during production, processing, and storing of petroleum and petroleum related products. The vapor recovery system includes all associated piping, valves, and flanges. The vapor recovery system shall be maintained and operated in a manner such that the release of organic compounds from all systems, including pressure relief valves and gauge hatches, is minimized.

(ii) *I&M Program:* The District-approved I&M Plan shall be implemented for the life of the project. The Plan, and any subsequent District approved revisions, is

incorporated by reference as an enforceable part of this permit. An updated Fugitive Emissions Inspection and Maintenance Plan must be submitted to the District for review and approval within one calendar quarter whenever there is a change in the component list or diagrams.

(iii) *Venting:* All routine venting of hydrocarbons shall be routed to either a sales compressor, flare header, injection well or other District-approved control device.

(iv) *Leak Path Count*: The component leak path count for the facility shall not exceed the permitted total by more than five percent. This five percent range is to allow for minor differences due to component counting methods and does not constitute allowable emissions growth due to the addition of new equipment.

(c) Monitoring: The equipment listed in this section are subject to all the monitoring requirements listed in District Rule 331.F. The test methods in Rule 331.H shall be used, when applicable.

(d) Recordkeeping: All inspection and repair records shall be retained at the source for a minimum of five years. The equipment listed in this section are subject to all the recordkeeping requirements listed in District Rule 331.G.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit. [*Re: District Rules 331 and 1303, 40 CFR 70.6*].

C.3 **Steam Generator.**

The following requirements apply to the steam generator:

Dev No	Equipment Name; Size
115058	Steam Generator SG 100, 26.500 MMBtu/hr

(a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

(i) *Oxides of Nitrogen (NO_x) Emission Limits:* Emissions of NO_x (as NO_2) from steam generator SG-100 shall not exceed a NO_x stack concentration of 9 ppmvd at 3% O_2 or a NO_x stack emission rate of 0.0110 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(ii) *Reactive Organic Compounds (ROC) Concentration Emissions Limits*: Emissions of ROC from steam generator SG-100 shall not exceed a ROC stack concentration of 7 ppmvd at 3% O_2 (as methane) or a stack emission rate of 0.0030 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(iii) *Carbon Monoxide (CO) Emission Limits*: Emissions of CO from steam generator SG-100 shall each not exceed 27 ppmvd at 3% O_2 or a CO stack emission rate of

0.0200 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(b) Operational Restrictions. The steam generator is subject to the following operational restrictions:

(i) *Heat Input Limits*. The hourly, daily and annual heat input limits to each steam generator shall not exceed the values listed below. These limits are based on the design rating of the burners and the annual heat input value as listed in the permit application. Unless otherwise designated by the District, the following fuel heat content shall be used for determining compliance: Produced Gas = 1,122 Btu/scf,

Hourly Heat Input	26.500	MMBtu/hour
Daily Heat Input	636.000	MMBtu/day
Annual Heat Input	232,140.000	MMBtu/year

(ii) *Wells Blown Down:* Steamed wells shall not be "blown down" to atmosphere.

(c) Monitoring. The permitted equipment is subject to the following monitoring requirements:

(i) The steam generator shall be equipped with dedicated District-approved electronic flow meter that will monitor and continuously record the daily and annual volume of gas (scf) combusted in the unit. The fuel meter shall be non-resettable, totalizing, and temperature and pressure corrected. The fuel meter shall be accurate to within five percent (5%) of the full scale reading. The fuel meter shall be calibrated at least every 12 months in accordance with the fuel meter manufacturer's recommendations and written procedures.

(ii) The permittee shall monitor and record the stack concentration of NO_x, CO, and O_2 of the Steam Generator SG 100 using a District-approved portable emission analyzer during any month in which the unit is operated. During any month the unit operates and must be shutdown due to equipment failure prior to monitoring and cannot be monitored prior to the end of the month, such circumstances shall not be considered a violation of this permit condition provided monitoring is performed within 24-48 hours of returning the unit to service. Monitoring is not required during any month in which a source test is performed or during which the unit is not in operation, i.e. the unit need not be started solely to perform monitoring.

A portable analyzer reading in excess of the permitted NO_x and CO concentrations shall not be considered a violation of this permit, so long as one of the following actions are taken:

a. The unit is shut down within 72 hours of the initial out-of-compliance reading, or,

b. The unit is brought into compliance and a follow-up portable analyzer inspection is conducted within 72 hours of the initial out-of-compliance reading.

(iii) All monitoring parameter emission readings shall be taken with the unit operating at conditions representative of normal operations. The portable analyzer shall be calibrated, maintained and operated in accordance with the manufacturer's

specifications and recommendations or a protocol approved by the District. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period.

No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after an unscheduled shutdown of the unit.

The higher heating value (HHV in Btu/scf) of the produced gas shall be measured annually. Measurement shall be in accordance with ASTM D-3588 or a District-approved method. Records shall be kept on site and made available for inspection by the District upon request.

(iv) All monitoring shall be conducted in accordance with the District-approved *Process Monitor Calibration and Maintenance Plan.*

(d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:

(i) The volume (bbls) of Diatomite oil produced each day and totaled for the year.

(ii) On a quarterly basis, the API gravity and true vapor pressure, and the temperature at which these measurements were taken.

(iii) *Steam Generator SG-100 Recordkeeping:*

1. The volume (scf) of gas combusted each day and year in Steam Generator SG-100.

2. The date and time of NO_x, CO and O_2 measurements.

3. The O_2 concentration in percent and the measured NO_x and CO concentrations corrected to 3% O_2.

4. Make and model of the portable emissions analyzer.

5. Emissions analyzer calibration records.

6. A log that documents and describes all occurrences of corrective action(s) taken to maintain the emissions within the acceptable range.

(iv) On a quarterly basis, the heating value of the Diatomite fuel gas (Btu/scf).

(v) The results of the weekly colorimetric detection tube readings of the Diatomite fuel gas H_2S concentration.

(vi) The results of the daily colorimetric detection tube readings of the Diatomite fuel gas H_2S concentration during media changeouts.

(vii) Dates of media changeout for each Diatomite hydrogen sulfide removal vessel.

(viii) Dates, start and end times, and total duration of all automatic process shutdowns at the V-300, V-301, V-303, V-304, V-320, and V-340 initiated by pressure monitors listed in Condition C.7.

(ix) Date and time of any rupture disk inspection required by the initiation of any alarm corresponding to a release pressure and a notation whether the disk was found intact or burst. If the rupture disk was found in a burst condition, record the date, start and end times, total time duration, and calculated quantity of uncontrolled produced gas emitted from atmospheric releases at the PSVs as required in Condition 7.

(x) Source test reports for all District-required stack emission tests.

(xi) Maintenance and calibration logs for burners and fuel flow meters.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.4 **Thermal Oxidizer.**
The following requirements apply to the thermal oxidizer:

Dev No	Equipment Name; Size
386807	Thermal Oxidizer CEB 1200, 41.000 MMBtu/hr

(a) The mass emissions from the equipment permitted herein shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

(i) *Oxides of Nitrogen (NO_x) Emission Limits:* Emissions of NO_x (as NO_2) from the thermal oxidizer shall not exceed a NO_x stack concentration of 15 ppmvd at 3% O_2 or a NO_x stack emission rate of 0.0183 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(ii) *Reactive Organic Compounds (ROC) Concentration Emissions Limits*: Emissions of ROC from the thermal oxidizer shall not exceed a ROC stack concentration of 10 ppmvd at 3% O_2 (as methane) or a stack emission rate of 0.0042 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(iii) *Carbon Monoxide (CO) Emission Limits*: Emissions of CO from the thermal oxidizer shall each not exceed 15 ppmvd at 3% O_2 or a CO stack emission rate of 0.0111 lb/MMBtu. Compliance with this condition shall be based on the source testing and the monitoring conditions of this permit.

(b) Operational Restrictions. The thermal oxidizer is subject to the following operational restrictions:

(i) *Heat Input Limits*. The hourly, daily and annual heat input limits to each steam generator shall not exceed the values listed below. These limits are based on the

design rating of the burners and the annual heat input value as listed in the permit application. Unless otherwise designated by the District, the following fuel heat content shall be used for determining compliance: Produced Gas = 1,122 Btu/scf,

Hourly Heat Input	41.000 MMBtu/hour
Daily Heat Input	984.000 MMBtu/day
Annual Heat Input	359,160.000 MMBtu/year

(ii) The gas lines shall be equipped with a sample port to allow for testing of the total sulfur content of field gas.

(iii) The thermal oxidizer shall be equipped with automatic ignition system including a pilot-light gas source or equivalent system.

(iv) Whenever combustible gases are vented to the thermal oxidizer, the flame (determined by thermocouple flame detecting device) shall be present.

(v) The thermal oxidizer shall operate within a rolling one-hour average temperature range of 1,750 °F to 1,950 °F as measured by the stack thermocouple. This temperature range may be adjusted based on source testing.

(c) Monitoring. The permitted equipment is subject to the following monitoring requirements

(i) The thermal oxidizer shall be equipped with dedicated District-approved electronic flow meter that will monitor and continuously record the daily and annual volume (scf) of produced gas (including pilot gas) combusted in the unit. The fuel meter shall be non-resettable, totalizing, and temperature and pressure corrected. The fuel meter shall be accurate to within five percent (5%) of the full scale reading. The fuel meter shall be calibrated at least every 12 months in accordance with the fuel meter manufacturer's recommendations and written procedures.

(ii) The thermal oxidizer shall be equipped with a dedicated stack thermocouple that will continuously monitor and record rolling one-hour average stack temperature measurements based on readings every 15 seconds. The permittee shall monitor the date and time of each excursion from the thermal oxidizer's temperature limit, the cause of each excursion, the corrective action taken and the date and time that the temperature was returned to the permitted range.

(d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:

(i) Continuous rolling one-hour average stack temperature measurements for the thermal oxidizer based on readings every 15 seconds. The permittee shall record the date and time of each excursion from the thermal oxidizer's temperature limit, the cause of each excursion, the corrective action taken and the date and time that the temperature was returned to the permitted range.

(ii) The volume (scf) of gas combusted each day and year in the thermal oxidizer.

(iii) Thermal oxidizer maintenance and repair activities.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.5 **Loading Rack - Diatomite.**

The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
115025	Loading Rack

(a) Emission Limitations. Mass emissions shall not exceed the limits listed in Tables 5.1-3 and 5.1-4.

(b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:

(i) *Throughput Limitation.* The following throughput limitations shall not be exceeded:

Diatomite Daily Truck Loading [(i)]	3,000	bbls/day
Diatomite Annual Truck Loading [(ii)]	365,000	bbls/year

[(i)] Compliance based on daily operator logs.
[(ii)] Compliance based on total annual throughput trucked from the facility as maintained by daily logs.

(ii) *Oil Loading Rack Operation*. The loading rack used to ship oil from the facility shall use bottom-loading and a vapor recovery system that prevents the vapors displaced during loading from being released into the atmosphere. Emissions from truck loading operations shall be vented to the gas gathering system and the operator shall use either a block and bleed valve system or other connectors with equivalent spill prevention characteristics.

Additionally, the operator shall use one of the following devices to prevent overfill:

a. A primary overfill protection system consisting of a preset fill meter with automatic flow shutoff and a secondary overfill protection system consisting of a liquid level sensor with the ability to signal high level to activate a control valve to shut off flow, or

b. A combination of overfill devices and/or procedures, submitted in writing to the Control Officer, that is at least as effective in preventing overfill spillage as the system described immediately above. District written approval must be obtained prior to implementing this option.

(c) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:

(i) The volume (bbls) of Diatomite oil shipped from the crude loading rack each day and totaled for the year.

(ii) In accordance with the applicable repair timelines for liquid leaks specified in Rule 331 and Rule 346, any leaks found at the loading rack as a result of the inspection required by Rule 331, shall be repaired and recorded immediately.

(d) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.6 **Best Available Control Technology (BACT).**
The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology ("BACT") to the operation of the Diatomite equipment/facilities as described in this permit and the District's Permit Evaluation for this permit. Table 5.7 and the Emissions, Operational, Monitoring, Recordkeeping and Reporting Conditions of this permit define the specific control technology and performance standard emission limits for BACT. The BACT shall be in place, and shall be operational at all times, for the life of the project. BACT related monitoring, recordkeeping and reporting requirements are defined in those specific permit conditions.

C.7 **Source Testing.**
The following source testing provisions shall apply:

(a) The permittee shall conduct source testing of air emissions and process parameters listed in Table 5.6 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. Source testing shall be performed on an annual schedule using August 30 as an anniversary date.

(b) The permittee shall submit a written source test plan to the District for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.

(c) Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, mass emission rates in Table 1 and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.

(d) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on

site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

(e) The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District.

C.8 **Minimization of Atmospheric Releases.**

The process shall be operated to prevent routine releases of uncontrolled produced gas to the atmosphere from the following vessels: V-300, V-301, V-303, V-304, V-320, and V-340. Each vessel is equipped with a pressure rupture device (PRD) followed by a pressure safety valve (PSV) identified as of PSVV300, PSVV301, PSVV303, PSVV304, PSVV320, and PSVV340. Downstream of each PSV is a wireless/electronic transmitter which measures the PSV valve activity.

In order to avoid process upsets resulting in atmospheric relief venting, pressure monitors shall measure the process stream pressure upstream of the H_2S scrubbing vessels and downstream of the gas filter vessels. Each PSV shall be fitted with a rupture disk with a disk rupture setting at the release pressure shown in the table below, and each PSV shall be activated at the release pressure shown in the table below. Each wireless/electronic transmitter shall alarm upon detection of any sound associated with the unseating of a PSV.

If pressure sensors measure any alarm pressure or automatic shutdown pressure V-300, V-301, V-303, V-304, V-320, and V-340 the following shall be initiated:

Pressure Monitor Output Measures an Alarm Pressure: Process control room alarm shall be triggered at the alarm pressure specified in the table below. The operator shall take action to return the plant to normal operating pressures in accordance with the *Process Monitor Calibration and Maintenance Plan*.

Pressure Monitor Output Measures an Automatic Shutdown Pressure: Process control room alarm shall be triggered at the automatic shutdown pressure specified in the table below. An automatic process shutdown shall occur preventing production fluid and gas from entering V-300, V-301, V-303, V-304, V-320, and V-340. The operator shall take action to return the plant to normal operating pressures in accordance with the *Process Monitor Calibration and Maintenance Plan*).

Pressure Monitor Output Measures a Release: If wireless/electronic transmitter sensors detect any release pressure shown in the table below at V-300, V-301, V-303, V-304, V-320, and V-340, a process control room alarm shall be triggered. A process shutdown shall occur

preventing additional production fluid and gas from entering V-300, V-301, V-303, V-304, V-320, and V-340.

Any pressure sensor output at or above the alarm pressure or the automatic shutdown pressure as specified in the table below, or any PSV wireless/electronic sensor detection at vessels V-300, V-301, V-303, V-304, V-320, and V-340 at or above the release pressure in the table below shall be recorded and an alarm shall be triggered immediately to notify plant operators. Permittee shall notify the District of any release pressure alarm via telephone or email (enfr@sbcapcd.org) as soon as possible on the day of the alarm but no later than four hours after the start of the next business day.

Any PSV pressure transmitter located downstream of a rupture disk measuring a pressure in excess of atmospheric pressure shall be deemed as evidence of a burst rupture disk and evidence of an uncontrolled production gas release to the atmosphere. The duration of the release shall be defined as the duration of the release alarm at the PSV. Any rupture disk deemed in a burst condition shall be replaced within 24 hours of the onset of the release pressure alarm.

Permittee shall maintain a log of the date and time of all release pressure alarms triggered. The log shall include the time of any vessel release to the atmosphere, the date of rupture disk replacement after a release, the duration and quantity of any gas released to the atmosphere and any corrective action taken. The log shall be available upon District request.

Vessel	PSV ID	PSV Release Pressure	PRD ID	PRD Release Pressure	Release Point	Alarm Set Point	Process Shutdown
V-300	PSVV300	50 psig	RDV300	60 psig	V-300	5 psig	45 psig
V-301	PSV301	100 psig	RD301	70 psig	V-301	10 psig	90 psig
V-303	PSVV303	100 psig	RDV303	125 psig	V-303	10 psig	90 psig
V-304	PSVV304	100 psig	RDV304	125 psig	V-304	10 psig	90 psig

C.9 **Recordkeeping.**

All records and logs required by this permit and any applicable District, state or federal rule or regulation shall be maintained for a minimum of five calendar years from the date of information collection and log entry at the platform. These records or logs shall be readily accessible and be made available to the District upon request.

C.10 **Semi-Annual Monitoring/Compliance Verification Reports.**
The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

(a) Rule 331 fugitive hydrocarbon I&M program data:

- inspection summary.
- record of leaking components.
- record of leaks from critical components.
- record of leaks from components that incur five repair actions within a continuous 12-month period.
- record of component repair actions including dates of component re-inspections.

(b) Steam Generator SG-100:

(i) The volume (scf) of produced gas combusted each day and year in steam generator SG-100.

(ii) The records of steam generator SG-100 monitoring, including portable analyzer readings, calibration records and a description of any corrective actions taken. The records shall note if portable analyzer monitoring was not conducted in any month due to equipment failure, equipment being offline the whole month or because a source test was conducted in the month.

(c) The quarterly lab reports of the higher heating value (Btu/scf) of the Diatomite fuel gas.

(d) The results of the weekly colorimetric detection tube readings of the Diatomite fuel gas H_2S concentration.

(e) The results of the daily colorimetric detection tube readings of the Diatomite fuel gas H_2S concentration during media changeouts

(f) Dates of media changeout for each Diatomite hydrogen sulfide removal vessel.

(g) Dates, start and end times and total hour duration of all automatic process shutdowns at V-300, V-301, V-303, V-304, V-320, and V-340 initiated by pressure monitors listed in Condition C.7.

(h) Date and time of any rupture disk inspection that found any rupture disk in a burst condition and the resultant duration of any gas released to the atmosphere and the calculated amount of uncontrolled production gas (in units of standard cubic feet and pounds of ROC) released to the atmosphere.

(i) Thermal Oxidizer Reporting:

(i) The volume (scf) of produced gas combusted each day and year in the thermal oxidizer.

(ii) The date and time of each excursion from the thermal oxidizer's temperature limit, the cause of each excursion, the corrective action taken, and the date and time that the temperature was returned to the permitted range.

(iii) Thermal oxidizer maintenance and repair activities correlated to open pipe flare usage.

(j) The volume (bbls) of Diatomite oil shipped from the crude oil loading rack each day and totaled for the year.

(k) Source test reports for all District-required stack emission tests.

(l) Quarterly API gravity and true vapor pressure measurements and storage temperature of the oil.

C.11 **Diatomite Gas Sulfur Removal System.**
The following shall apply to this system:

(a) The following operating requirements shall apply:

(i) All Diatomite produced gas to be combusted at the facility shall be treated by the Diatomite hydrogen sulfide removal system. Except during media changeout and system maintenance, the Diatomite produced gas sulfur removal system shall be operated in a "lead/lag" configuration at all times, i.e., treatment of gas through the first vessel followed by treatment through the second vessel (in series).

(ii) Media changeout for the permanent lead vessel (Device ID: 115084) shall occur within three calendar days of when an H_2S reading equals or exceeds 45 ppmv at the outlet of the permanent lag vessel.

(iii) Media changeout for the permanent lag vessel (Device ID: 115085) shall occur within three calendar days of when the permanent lag vessel inlet and outlet H_2S readings indicate that the permanent lag vessel is capturing less than 10 percent by weight of the inlet H_2S or when an H_2S reading equals or exceeds 45 ppmv at the outlet of the permanent lag vessel, whichever comes first.

(iv) In the event that both the permanent lead vessel (Device ID: 115084) and permanent lag vessel (Device ID: 115085) trigger the media change out requirements at the same time, the permanent lead vessel media shall be changed out first, followed by the media changeout of the permanent lag vessel.

C.12 **Diatomite Gaseous Fuel Sulfur Limit.**
The total sulfur content (calculated as H_2S at standard conditions, 60 °F and 14.7 psia) of the Diatomite gaseous fuel combusted at the facility shall not exceed 50 ppmv (as H_2S). The following monitoring requirements shall apply:

(a) Measure the H_2S content of the Diatomite fuel gas on a weekly basis using colorimetric detection tubes, or a District-approved equivalent, at sampling ports located between the vessels, and at the outlet of the permanent lag vessel.

(b) During lead or lag vessel media changeout, the permittee shall measure the H_2S content of the Diatomite fuel gas on a daily basis using colorimetric detection tubes or a District-approved equivalent.

(c) If the colorimetric detection tube measurement indicate a Diatomite gas H_2S content greater than 45 ppmv at the outlet of the permanent Diatomite lag vessel, the permittee shall measure the total sulfur content (as H_2S) of the Diatomite gaseous fuel within one week of the colorimetric detection tube measurement in accordance with ASTM-D1072 or a District approved equivalent method.

(d) Records shall be kept on site and made available for inspection by the District upon request.

C.13 **Requirements for Produced Gas.**
The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

C.14 **Documents Incorporated by Reference.**
The documents listed below and any District approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this permit. The documents shall be implemented for the life of the Diatomite Project and shall be made available to District inspection staff upon request.

- *Enhanced Fugitive Hydrocarbon Inspection and Maintenance Plan for the Diatomite Project (District approved March 17, 2009)*

- *Process Monitor Calibration and Maintenance Plan (District approved November 16, 2007, updated June 3, 2009)*

- *Fuel Use Monitoring Plan for the Diatomite Project (District approved July 10, 2015)*

C.15 **Solvent Usage.**
The following items are included in this emissions unit category: Photochemically reactive solvents, surface coatings and general solvents.

(a) Emission Limits: The following solvent emission limits are federally-enforceable for the entire stationary source:

Solvent Type	lbs/hour	lbs/day
Photochemically Reactive	8 lbs/hour	40 lbs/day
Non-Photochemically Reactive	450 lbs/hour	3,000 lbs/day

(b) Operational Limits: Use of solvents for cleaning/degreasing shall conform to the requirements of District Rules 317, 322, 323 and 324. Compliance with these rules shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit and facility inspections.

(i) *Reclamation Plan*: The permittee may submit a Plan to the District for the disposal of any reclaimed solvent. If the Plan is approved by the District, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. The permittee shall obtain District approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.

(c) Monitoring: None.

(d) Recordkeeping: The permittee shall record in a log the following on a monthly basis for each solvent used: amount used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed for District-approved disposal; whether the solvent is photochemically reactive; and, the resulting emissions to the atmosphere in units of pounds per month and pounds per day. Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a manner readily accessible to District inspection.

(e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the District. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.16 **Emission Offsets.**
PCEC shall offset all oxides of nitrogen (NO_x) and reactive organic compound (ROC) emissions pursuant to Tables 7.3(a) and 7.3(b) of this permit. Emission reduction credits (ERCs) sufficient to offset the permitted quarterly NO_x and ROC emissions shall be in place for the life of the project.

9.D District-Only Conditions

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the District and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of District Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

D.1 **Condition Acceptance.**
Acceptance of this operating permit by the permittee shall be considered as acceptance of all terms, conditions, and limits of this permit.

D.2 **Abrasive Blasting Equipment.**
All abrasive blasting activities performed on the Careaga Lease shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.

D.3 **Process Stream Sampling and Analysis.**
The permittee shall sample analyze the process streams listed in Section 4.9 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to District approved ASTM methods and must follow traceable chain of custody procedures.

D.4 **Annual Compliance Verification Reports.**
The permittee shall submit a report to the District, by March 1 of each year containing the information listed below and shall document compliance with all applicable permit requirements. A paper copy, as well as a complete PDF electronic copy of these reports, shall be in a format approved by the District. These reports shall be in a format approved by the District. All logs and other basic source data not included in the report shall be available to the District upon request. Pursuant to Rule 212, the annual report shall include a completed *District Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the District website. The report shall include the following information:

(a) API gravity, true vapor pressure and storage temperature of the oil.

(b) Oil processed through the tank battery along with the number of days per month of production.

(c) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.

(d) The ROC and NO_X emissions from all permit exempt activities (tons per year by device/activity).

(e) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

D.5 **Mass Emission Limitations.**
Mass emissions for each equipment item (i.e., emissions unit) shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the entire facility shall not exceed the total limits listed in Table 5.2.

D.6 **Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities.**
The equipment permitted herein shall be operated in compliance with the California Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities regulation (CCR Title 17, Section 95665 *et. Seq*.).

D.7 **CARB GHG Regulation Recordkeeping.**
The permittee shall maintain at least 5 years of records that document the following:

(a) The number of crude oil or natural gas wells at the facility.

(b) A list identifying all pressure vessels, tanks, separators, sumps, and ponds at the facility, including the size of each tank and separator in units of barrels.

(c) The annual crude oil, natural gas, and produced water throughput of the facility.

(d) A list identifying all reciprocating and centrifugal natural gas compressors at the facility.

(e) A count of all natural gas powered pneumatic devices and pumps at the facility.

(f) A copy of the *Best Practices Management Plan* designed to limit methane emissions from circulation tanks, if applicable.

D.8 **CARB GHG Regulation Reporting.**
On an annual basis, the permittee shall report all throughput data and any updates to the information recorded pursuant to the *CARB GHG Regulation Recordkeeping* Condition above using District Annual Report Form ENF-108. This report shall be submitted by March 1 of each year detailing the previous year's activities.

Air Pollution Control Officer

_____

_____

Date

NOTES:

(a) This permit supersedes PTO 8896-R12 and PTO 13257- R4

(b) Permit Renewal Due Date: July 1, 2028

10.0 Attachments

10.1 Emission Calculation Documentation
10.2 Emission Calculation Spreadsheets
10.3 IDS Tables
10.4 Equipment List
10.5 Diatomite Well List

10.1 EMISSION CALCULATION DOCUMENTATION – CAREAGA LEASE

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. Detailed calculation spreadsheets are attached as Attachment 10.2. The letters A - D refer to Tables 5.1-1 and 5.1-2.

Reference A - Petroleum Storage Tanks

→ The hourly/daily/annual emissions for the petroleum storage tanks is based on USEPA AP-42 Chapter 7, Liquid Storage Tanks (5^{th} Edition, 2/96)

Reference B - Pits, Sumps and Wastewater Tank

→ The maximum operating schedule is in units of hours;

→ Emission calculation methodology based on the CARB/KVB report *Emission Characteristics of Crude Oil Production Operations in California (1/83)*;

→ Calculations are based on surface area of emissions noted in the inspector's report;

→ All separator units are classified as secondary production and heavy oil service;

→ The THC Speciation is based on CARB profiles # 529, 530, 531, 532; the ROC/TOC ratio is based on the District's guideline *"VOC/ROC Emission Factors and Reactivities for Common Source Types"* Table dated 07/13/98 (version 1.1).

Reference C - Components Emitting Fugitive ROCs

→ Emission factors are based on the *District P&P 6100.061 guidelines.*

→ In determining the facility model using the CARB/KVB methodology for fugitive emissions, a default Gas Oil Ratio of 501 scf/bbl was used. This value assumes the worst case model.

→ An 80% reduction in fugitive emissions was assumed due to the implementation of a fugitive inspection and maintenance plan pursuant to Rule 331.

Reference D - Steam Generator

→ 26.500 MMBtu/hr steam generator is equipped with low-NO_x burners and flue gas recirculation.

→ NO_x emissions have a manufacturer's guaranteed of 9 ppmv at 3% O_2, the ROC emissions are limited to 7 ppmv at 3% O_2, and the CO emissions meet 27 ppmv at 3% O_2.

Reference D - Thermal Oxidizer

→ 41.000 MMBtu/hr thermal oxidizer is a forced-draft design that pre-mixes waste gas and combustion air.

→ NO_x emissions are controlled to 15 ppmv at 3% O_2, ROC controlled to 10 ppmv at 3% O_2, and the CO is limited to 15 ppmv at 3% O_2.

Reference E - Loading Rack

Calculations based on District Loading Rack Emission Calculation Spreadsheet (ver3.0).

Reference E - Solvents

→ All solvents not used to thin surface coatings are included in this equipment category.

10.2 Emission Calculation Spreadsheets

DIATOMITE WASH TANK EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-1
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.17	Permit Application
If TVP is entered, enter TVP temperature (°F)	150	Permit Application
Is the tank heated (Yes or No)?	Yes	Permit Application
If tank is heated, enter temperature (°F)	150	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	Yes	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	15.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	28	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	27	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0.06	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	1000	Permit Application
Maximum Annual Throughput (gallons)	1.533E+07	Calculated Value
RVP (psi)	0.47698	RVP Matrix
API Gravity (°)	20	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		*Controlled Potential to Emit*	
	lb/day	TPY	lb/day	TPY
Breathing Losses	0.02	0.00	0.00	0.00
Working Losses	0.00	0.00	0.00	0.00
Flashing Losses	0.00	0.00	0.00	0.00
Total	**0.02**	**0.00**	**0.00**	**0.00**

Processed By: JJM Date: 2/3/2023

DIATOMITE SHIPPING TANK 1 EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-2
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.17	Permit Application
If TVP is entered, enter TVP temperature (°F)	150	Permit Application
Is the tank heated (Yes or No)?	Yes	Permit Application
If tank is heated, enter temperature (°F)	150	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	No	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	16	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	8	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	1000	Permit Application
Maximum Annual Throughput (gallons)	1.533E+07	Calculated Value
RVP (psi)	0.47698	RVP Matrix
API Gravity (°)	20	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	0.14	0.03	0.01	0.00
Working Losses	9.71	1.77	0.49	0.09
Flashing Losses	0.00	0.00	0.00	0.00
Total	**9.85**	**1.80**	**0.49**	**0.09**

Processed By: JJM Date: 2/3/2023

DIATOMITE SHIPPING TANK 2 EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A-3
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	1.17	Permit Application
If TVP is entered, enter TVP temperature (°F)	150	Permit Application
Is the tank heated (Yes or No)?	Yes	Permit Application
If tank is heated, enter temperature (°F)	150	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	No	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	21.5	Permit Application
Capacity (barrels)	1,000	Permit Application
Capacity (gallons)	42,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	16	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	8	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	1000	Permit Application
Maximum Annual Throughput (gallons)	1.533E+07	Calculated Value
RVP (psi)	0.47698	RVP Matrix
API Gravity (°)	20	Permit Application

Vapor Recovery System Data

Information	*Value*	*Reference*
Vapor Recovery System Long Term Efficiency	95.00%	SBCAPCD
Vapor Recovery System Short Term Efficiency	95.00%	SBCAPCD

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		*Controlled Potential to Emit*	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	0.14	0.03	0.01	0.00
Working Losses	9.71	1.77	0.49	0.09
Flashing Losses	0.00	0.00	0.00	0.00
Total	**9.85**	**1.80**	**0.49**	**0.09**

Processed By: JJM Date: 2/3/2023

DIATOMITE FUGITIVE HYDROCARBON EMISSION CALCULATIONS - CARB/KVB METHOD (Ver. 6.0)

Attachment: A-4
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Input Data

Facility Information	*Value*	*Units*	*Reference*
Number of Active Wells at Facility	0	wells	Permit Application
Facility Gas Production	350000	scf/day	Permit Application
Facility Dry Oil Production	1000	bbls/day	Permit Application
Facility Gas to Oil Ratio (if > 500 then default to 501)	350	scf/bbl	Permit Application
API Gravity	20	degrees API	Permit Application
Facility Model Number	3	dimensionless	User Input
No. of Steam Drive Wells with Control Vents	0	wells	Permit Application
No. of Steam Drive Wells with Uncontrolled Vents	0	wells	Permit Application
No. of Cyclic Steam Drive Wells with Control Vents	0	wells	Permit Application
No. of Cyclic Steam Drive Wells with Uncontrolled Vents	0	wells	Permit Application
Composite Valve and Fitting Emission Factor	0.0890	lb/day-well	Table Below

Emission Factor Based on Lease Model

Lease Model	Valve Without Ethane	Fitting Without Ethane	Composite Without Ethane	Units
1	1.4921	0.9947	2.4868	lbs/day-well
2	0.6999	0.6092	1.3091	lbs/day-well
3	0.0217	0.0673	0.0890	lbs/day-well
4	4.5090	2.1319	6.6409	lbs/day-well
5	0.8628	1.9424	2.8053	lbs/day-well
6	1.7079	2.5006	4.2085	lbs/day-well

Model #1: Number of wells on lease is less than 10 and the GOR is less than 500.
Model #2: Number of wells on lease is between 10 and 50 and the GOR is less than 500.
Model #3: Number of wells on lease is greater than 50 and the GOR is less than 500.
Model #4: Number of wells on lease is less than 10 and the GOR is greater than 500.
Model #5: Number of wells on lease is between 10 and 50 and the GOR is greater than 500.
Model #6: Number of wells on lease is greater than 50 and the GOR is greater than 500.

Reference: CARB speciation profiles numbers 529, 530, 531, 532

CARB KVB ROC Potential to Emit

Emission Source	lb/day	TPY
Valves and Fittings[a]	0.00	0.00
Sumps, Wastewater Tanks and Well Cellars[b]	0.23	0.04
Oil/Water Separators[b]	0.00	0.00
Pumps/Compressors/Well Heads[a]	0.00	0.00
Enhanced Oil Recovery Fields	0.00	0.00
Total ROC Potential to Emit [c]	**0.23**	**0.04**

Notes:

a. Emissions amount reflect an 80% reduction due to Rule 331 implementation.
b. Emissions reflect control efficiencies where applicable.
c. Due to rounding, the totals may not appear correct

Unit Type Emission Calculations

Pumps, Compressors, and Well Heads Uncontrolled Emission Calculations

	Value	Units	Reference
Number of Wells	0	wells	Permit Application
Wellhead Emissions	0	lb-ROC/day	Calculated Value
FHC from Pumps	0	lb-ROC/day	Calculated Value
FHC from Compressors	0	lb-ROC/day	Calculated Value
Total ROC Emissions	**0.00**	lb-ROC/day	Calculated Value

Well Cellars, Sumps, Covered Wastewater Tanks, and Oil/Water Separators

Separation Level	Heavy Oil Service	Light Oil Service	Units
Primary	0.0941	0.1380	lb ROC/ft^2-day
Secondary	0.0126	0.0180	lb ROC/ft^2-day
Tertiary	0.0058	0.0087	lb ROC/ft^2-day

WELL CELLARS			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Well Cellars[(a)]			0.00		
				0.00	
					0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.00**	**0.00**

Notes:

a. A 70% reduction is applied for implementation of Rule 344 (Sumps, Pits, and Well Cellars).

COVERED WASTEWATER TANKS			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Covered Wastewater Tank[(a)]	0	0	0.00		
	0	0		0.00	
	0	0			0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.00**	**0.00**

Notes:

a. A 85% reduction is applied.

COVERED WASTEWATER TANK WITH VAPOR RECOVERY			Level of Separation		
Equipment Type	**Number**	**Total Area (ft^2)**	**Primary**	**Secondary**	**Tertiary**
Covered Wastewater Tank with Vapor Recovery[(a)]	0	0	0.00		
	1	363		0.23	
	0	0			0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.23**	**0.00**

Notes:

a. A 95% reduction is applied.

OIL AND WATER SEPARATORS		Type		
Equipment Type	**Total Throughput (MMgal)**	**Covered**	**Vapor Recovery**	**Open Top**
Oil and Water Separators [(a)(b)]	0	0.00		
	0		0.00	
	0			0.00
Daily ROC Emissions (lb/day)		**0.00**	**0.00**	**0.00**

Notes:

a. A 85% reduction is applied for covered, 85% for connected to vapor recovery, and 0% for open top.

b. Emission Factor of 560 lb-ROC/Mmgal

Processed By: JJM Date: 2/3/2023

DIATOMITE FUGITIVE HYDROCARBON EMISSION CALCULATIONS - CLP METHOD (Ver. 3.0)

Attachment: A-5
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Facility Information

Facility Type (Enter X Where Appropriate)
Production Field X Gas Processing Plant ____ Refinery ____ Offshore Platform ____

Gas/Condensate Service Component

Component Type	Component Count	THC Emission Factor (lb/day-clp)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[b,c]	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Valves - Accessible/Inaccessible	0	0.295	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe	0	0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows	0	0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv	0	0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A	0	0.295	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B	0	0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C	0	0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D	0	0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E	0	0.295	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F	160	0.295	0.31	14.63	0.90	0.06	1.46	0.07	0.27
Valves - Category G	0	0.295	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	0	0.070	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Flanges/Connections - Unsafe	0	0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A	0	0.070	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B	0	0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C	0	0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D	0	0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E	0	0.070	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F	421	0.070	0.31	9.14	0.90	0.04	0.91	0.04	0.17
Flanges/Connections - Category G	0	0.070	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Compressor Seals - To Atm	0	2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS	0	2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - To Atm/Flare	0	6.670	0.31	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS	7	6.670	0.31	14.47	1.00	0.00	0.00	0.00	0.00
Pump Seals - Single	0	1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - Dual/Tandem	0	1.123	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Gas Condensate Subtotals	**588**			**38.24**		**0.10**	**2.38**	**0.11**	**0.43**

Oil Service Components

Component Type	Component Count	THC Emission Factor (lb/day-clp)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[b,c]	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Valves - Accessible/Inaccessible	0	0.004	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe	0	0.004	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows	0	0.004	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv	0	0.004	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A	0	0.004	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B	0	0.004	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C	0	0.004	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D	0	0.004	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E	0	0.004	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F	849	0.004	0.56	1.95	0.90	0.01	0.19	0.01	0.04
Valves - Category G	0	0.004	0.56	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	0	0.002	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges/Connections - Unsafe	0	0.002	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A	0	0.002	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B	0	0.002	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C	0	0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D	0	0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E	0	0.002	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F	2,924	0.002	0.56	3.27	0.90	0.01	0.33	0.01	0.06
Flanges/Connections - Category G	0	0.002	0.56	0.00	0.92	0.00	0.00	0.00	0.00
PSV - To Atm/Flare	0	0.267	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS	0	0.267	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Pump Seals - Single	12	0.004	0.56	0.03	0.80	0.00	0.01	0.00	0.00
Pump Seals - Dual/Tandem	0	0.004	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Oil Subtotals	3,785			5.25		0.02	0.53	0.02	0.10

Total	**4,373**			**43.49**		**0.12**	**2.90**	**0.13**	**0.53**

Notes:
a. District Policy and Procedure 6100.061.1998.
b. A 80% efficiency is assigned to fugitive components Rule 331 implementation.
c. Emission control efficiencies for each component type are identified in FHC Control Factors (Ver. 2.0).

Processed By: JJM Date: 2/3/2023

DIATOMITE STEAM GENERATOR EMISSION CALCULATIONS (Ver. 7.0)

Attachment: A-6
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Heater Input Data

Information	*Value*	*Units*	*Reference*
Maximum Hourly Heat Input	26.500	MMBtu/hr	Permit Application
Daily Operating Schedule	24	hrs/day	Permit Application
Maximum Daily Heat Input	636.000	MMBtu/day	Calculated value
Yearly Load Factor (%)	100	%	Permit Application
Maximum Annual Heat Input	232,140.000	MMBtu/yr	Calculated value

Fuel Information

Information	*Value*	*Units*	*Reference*
Fuel	Produced Gas	N/A	Permit Application
High Heating Value	1,122	Btu/scf	Permit Application
Sulfur Content of Fuel	50.00	ppmvd as H_2S	Permit Application

Emission Factors

Pollutant	*Value*	*Units*	*Reference*
NO_x Emission Factor	0.0110	lb/MMBtu	Man. Guarantee of 9 ppmv @ 3% O2
ROC Emission Factor	0.0030	lb/MMBtu	Man. Guarantee of 7 ppmv @ 3% O2
CO Emission Factor	0.0200	lb/MMBtu	Man. Guarantee of 27 ppmv @ 3% O2
SO_x Emission Factor	0.0075	lb/MMBtu	Mass Balance Calculation
PM Emission Factor	0.0075	lb/MMBtu	AP-42, Section 1.4
PM_{10} Emission Factor	0.0075	lb/MMBtu	AP-42, Section 1.4
$PM_{2.5}$ Emission Factor	0.0075	lb/MMBtu	AP-42, Section 1.4

Boiler/Steam Generator Potential to Emit

Pollutant	lb/day	TPY
NO_x	7.00	1.28
ROC	1.91	0.35
CO	12.72	2.32
SO_x	4.79	0.87
PM	4.77	0.87
PM_{10}	4.77	0.87
$PM_{2.5}$	4.77	0.87

Processed By: JJM Date: 2/3/2023

OILFIELD FLARE EMISSION CALCULATIONS (Ver. 2.0)

Attachment: A-7
Permit Number: Pt70 PTO 16033
Facility: Careaga Lease

Fuel Information

Data	*Value*	*Units*	*Reference*
Flare Throughput.....	0.725	MMscf/day	Permit Application
Gas Heat Content.....	1,122	Btu/scf	Permit Application
Sulfur Content.....	50	ppmv as H_2S	Permit Application

Heat Input Data

Value	*Units*	*Reference*
41.000	MMBtu/hour	Daily divided by 24 hr/day
813.450	MMBtu/day	Permit Application
296,909.250	MMBtu/year	Daily times 365 days/yr

Emission Factors

Pollutant	*lb/MMBtu*	*Reference*
NO_x	0.0183	AP-42, Table 13.5-1
ROC	0.0042	District February 2016 Flare Study
CO	0.0111	AP-42, Table 13.5-1
SO_x	0.0080	Mass Balance Calculation
PM	0.0200	SBCAPCD
PM_{10}	0.0200	AP-42, Chapter 1.4
$PM_{2.5}$	0.0200	AP-42, Chapter 1.4

Flare Potential to Emit

Pollutant	NO_x	ROC	CO	SO_x	PM	PM_{10}	$PM_{2.5}$
lb/day	14.89	3.42	9.03	6.51	16.27	16.27	16.27
TPY	2.72	0.62	1.65	1.19	2.97	2.97	2.97

Processed By: JJM Date: 11/26/2024

CRUDE OIL LOADING RACK EMISSION CALCULATIONS (Ver. 4.2)

Attachment: A-8
Permit Number: Pt70 PTO 16033 (Part II)
Facility: Careaga Lease

Rack Information

Rack Type	*Enter X Where Appropriate*	*S Factor*
Submerged Loading of a Clean Cargo Tank		0.50
Submerged Loading: Dedicated Normal Service	X	0.60
Submerged Loading: Dedicated Vapor Balance Service		1.00
Splash Loading of a Clean Cargo Tank		1.45
Splash Loading: Dedicated Normal Service		1.45
Splash Loading: Dedicated Vapor Balance Service		1.00

Input Data

Input data	*Value*	*Reference*
Saturation Factor	0.60	Previous Input, AP-42 Table 4.4-1
Molecular Weight	50	SBCAPCD Default for Crude Oil
True Vapor Pressure (psia)	1.170	Permit Application
Liquid Temperature (°F)	150	Permit Application
Loading Rate (bbl/hr)	160.00	Permit Application
Storage Capacity (bbl)	3,000	Permit Application
Daily Production (bbl)	1,000	Permit Application
Annual Production (bbl)	365,000	Permit Application
Vapor Recovery Efficiency	0.95	SBCAPCD
ROC/THC Reactivity	0.885	SBCAPCD Default for Crude Oil

Loading Rate Calculations

Calculated Information	*Value*	*Reference*
Daily Hours Loading (hours)	18.75	Calculated Value
Annual Hours Loading (hours)	2,281.25	Calculated Value
Loading Loss (lb / 1,000 gals)	0.7170	Calculated Value

Crude Oil Loading Rack ROC Potential to Emit

Controlled Potential to Emit	
lb/day	**4.00**
TPY	**0.24**

Processed By: JJM Date: 10/2/2024

10.3 IDS Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5}$
PT-70 PTO 16033 (non thermal + Diatomite)						
lb/day	39.41	126.47	74.75	13.11	27.23	27.23
tons/year	4.76	18.30	5.06	2.23	4.50	4.50

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5}$
Careaga Lease (non thermal + Diatomite)						
lb/day	39.41	128.47	74.75	13.11	27.23	27.23
tons/year	4.76	18.30	5.06	2.23	4.50	4.50

Table 3
Stationary Source Emissions

	NO_X	ROC	CO	SO_X	TSP	$PM_{10/2.5}$
Orcutt Hill and Casmalia Oil Fields Stationary Source						
lbs/day	1,362.37	3,911.52	2723.34	204.41	91.35	91.35
tons/year	169.19	221.12	337.02	32.16	12.77	12.77

10.4 Equipment List

A PERMITTED EQUIPMENT

1 Monterey Equipment

1.1 Tanks

1.1.1 Gauge Tank

Device ID #	**111318**	***Device Name***	**Gauge Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	T-4132
Model		*Serial Number*	
Location Note	Section 32		
Device Description	Dimensions: 21.5' diameter x 16' high, connected to the vapor recovery system, used to measure volumes of fluids produced from wells		

1.1.2 Wash Tank

Device ID #	**115021**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	1500.00 BBL
Manufacturer		*Operator ID*	T-4064
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 21.5' diameter x 24' high, connected to the vapor recovery system		

1.1.3 Wastewater Tank

Device ID #	**115051**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	2000.00 BBL
Manufacturer	Columbia Tech Tank	*Operator ID*	T-4171
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 29.7' diameter x 16' high, connected to the vapor recovery system		

1.1.4 Crude Oil Storage Tank 1

Device ID #	**115052**	***Device Name***	**Crude Oil Storage Tank 1**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	T-4103
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 21.5' diameter x 16' high, connected to the vapor recovery system		

1.1.5 Crude Oil Storage Tank 2

Device ID #	**115054**	***Device Name***	**Crude Oil Storage Tank 2**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	T-4337
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 21.5' diameter x 16' high, connected to the vapor recovery system		

1.2 Separators

1.2.1 Separator

Device ID #	**115038**	***Device Name***	**Separator**
Rated Heat Input		*Physical Size*	
Manufacturer	Aerial Separator	*Operator ID*	V-203
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 30” diameter x 8’ high		

1.2.2 Two Phase Separator Vessel (Field Inlet Separator)

Device ID #	**100762**	***Device Name***	**Two Phase Separator Vessel (Field Inlet Separator)**
Rated Heat Input		*Physical Size*	
Manufacturer	Parkersburg/Smith	*Operator ID*	V-201
Model		*Serial Number*	2037126
Location Note			
Device Description	Dimensions: 3' diameter x 10' high, connected to the vapor recovery system, welded construction, vertical		

1.2.3 Vertical Oil/Gas Separator 1 (Coalescing Filter)

Device ID #	**115131**	***Device Name***	**Vertical Oil/Gas Separator 1 (Coalescing Filter)**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-3101
Model		*Serial Number*	
Location Note	Vapor Recovery Skid		
Device Description	Dimensions: 14" diameter x 36" high, carbon steel, removable coalescing element, differential pressure indicator		

1.2.4 Vertical Oil/Gas Separator 2 (Coalescing Filter)

Device ID #	**115132**	***Device Name***	**Vertical Oil/Gas Separator 2 (Coalescing Filter)**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-3200
Model		*Serial Number*	
Location Note	Vapor Recovery Skid		
Device Description	Dimensions: 14" diameter x 36" high, carbon steel, removable coalescing element, differential pressure indicator		

1.3 Miscellaneous Equipment

1.3.1 Monterey Oil and Gas Wells

Device ID #	**115024**	***Device Name***	**Monterey Oil and Gas Wells**
Rated Heat Input		*Physical Size*	73.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

1.3.2 Well Cellars

Device ID #	**115023**	***Device Name***	**Well Cellars**
Rated Heat Input		*Physical Size*	732.00 Square Feet Cellar Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	21 well cellars of various sizes		

1.3.3 Fixed Bed Reactor Vessel 1

Device ID #	**114493**	***Device Name***	**Fixed Bed Reactor Vessel 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-2001A
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 10' diameter x 20' high, vertical, permanent lag vessel in lead-lag configuration with Fixed Bed Reactor Vessel 2 (Device ID: 114494).		

1.3.4 Fixed Bed Reactor Vessel 2

Device ID #	**114494**	***Device Name***	**Fixed Bed Reactor Vessel 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-2001B
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 10' diameter x 20' high, vertical, permanent lead vessel in lead-lag configuration with Fixed Bed Reactor Vessel 1 (Device ID: 114493)		

1.3.5 Vertical Inlet Gas Scrubber

Device ID #	**115028**	***Device Name***	**Vertical Inlet Gas Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer	BS&B	*Operator ID*	
Model		*Serial Number*	G-6
Location Note			
Device Description	Dimensions: 3’ diameter x 11’ high		

1.3.6 Vertical Inlet Suction Scrubber

Device ID #	**115129**	***Device Name***	**Vertical Inlet Suction Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-3100
Model		*Serial Number*	
Location Note	Vapor Recovery Skid		
Device Description	Dimensions: 24" diameter x 72" length, carbon steel, equipped with condensate pump electric motor (7 gpm, 35 psig)		

1.3.7 Gas Gathering Compressor

Device ID #	**397951**	***Device Name***	**Gas Gathering Compressor**
Rated Heat Input		*Physical Size*	15.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Section 32		
Device Description	Gas Gathering Compressor		

1.3.8 Backup Compressor

Device ID #	**397950**	***Device Name***	**Backup Compressor**
Rated Heat Input		*Physical Size*	125.00 Brake Horsepower
Manufacturer	Clark	*Operator ID*	
Model		*Serial Number*	
Location Note	Monterey Gas Plant		
Device Description	Backup Electric Compressor		

1.3.9 Electric Gas Compressor

Device ID #	**397949**	***Device Name***	**Electric Gas Compressor**
Rated Heat Input		*Physical Size*	200.00 Brake Horsepower
Manufacturer	Frick	*Operator ID*	
Model		*Serial Number*	
Location Note	Monterey Gas Plant		
Device Description	Electric Gas Compressor		

1.3.10 Vertical Discharge Scrubber

Device ID #	**115130**	***Device Name***	**Vertical Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-3200
Model		*Serial Number*	
Location Note	Vapor Recovery Skid		
Device Description	Dimensions: 12.75" diameter x 60" length, carbon steel, internally plastic coated, stainless steel mesh pas type mist extractor, one bridle mounted level assembly		

1.3.11 LACT Transfer System (Shipping Pump)

Device ID #	**115027**	***Device Name***	**LACT Transfer System (Shipping Pump)**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Tank Battery		
Device Description			

1.3.12 Vapor Recovery System Compressor

Device ID #	**111330**	***Device Name***	**Vapor Recovery System Compressor**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Section 32		
Device Description	Collected vapors sent to the gas collection line for the gauge tank.		

1.3.13 Oil Shipping Pump

Device ID #	**111331**	***Device Name***	**Oil Shipping Pump**
Rated Heat Input		*Physical Size*	15.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-4205
Model		*Serial Number*	
Location Note	Section 32		
Device Description	Used to ship produced fluids from the gauge tank to the tank battery		

1.3.14 Tank Bottom Pumps

Device ID #	**115031**	***Device Name***	**Tank Bottom Pumps**
Rated Heat Input		*Physical Size*	1.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Crude Storage Tank and Wash Tank		
Device Description	Two pumps		

1.3.15 Condensate Pump

Device ID #	**387376**	***Device Name***	**Condensate Pump**
Rated Heat Input		*Physical Size*	2.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-3100
Model		*Serial Number*	
Location Note	Vapor Recovery Skid		
Device Description			

1.3.16 Compressor Driver 1 (Driver for VR Compressor 1)

Device ID #	**115127**	***Device Name***	**Compressor Driver 1 (Driver for VR Compressor 1)**
Rated Heat Input		*Physical Size*	50.00 Horsepower (Electric Motor)
Manufacturer	Baldor	*Operator ID*	
Model	ZDVSM4115T	*Serial Number*	
Location Note	VR Skid		
Device Description	1,800 rpm, oversized bearing with positive lubrication, suitable for VFD, constant torque, rated for NEC Class 1 Division 2 hazardous area		

1.3.17 Compressor Driver 2 (Driver for VR Compressor 2)

Device ID #	**115128**	***Device Name***	**Compressor Driver 2 (Driver for VR Compressor 2)**
Rated Heat Input		*Physical Size*	50.00 Horsepower (Electric Motor)
Manufacturer	Baldor	*Operator ID*	
Model	ZDVSM4115T	*Serial Number*	
Location Note			
Device Description	1,800 rpm, oversized bearing with positive lubrication, suitable for VFD, constant torque, rated for NEC Class 1 Division 2 hazardous area		

1.3.18 Rotary Screw Compressor 1

Device ID #	**115120**	***Device Name***	**Rotary Screw Compressor 1**
Rated Heat Input		*Physical Size*	
Manufacturer	LeRoi	*Operator ID*	C-3100
Model	HG 12281	*Serial Number*	
Location Note			
Device Description	Direct drive, 1,780 rpm, equipped with lube oil system, minimum pressure valve, one electric motor driven oil make-up pump		

1.3.19 Rotary Screw Compressor 2

Device ID #	**115125**	***Device Name***	**Rotary Screw Compressor 2**
Rated Heat Input		*Physical Size*	
Manufacturer	LeRoi	*Operator ID*	C-3200
Model	HG 12281	*Serial Number*	
Location Note			
Device Description	Direct drive, 1,780 rpm; equipped with lube oil system, minimum pressure valve, one electric motor driven lube oil make-up pump		

1.4 Monterey Fugitive Components

Device ID #	**001121**	***Device Name***	**Monterey Fugitive Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas/Condensate Service: Valves - Accessible/Inaccessible: 72, Flange/Connections - Accessible/Inaccessible: 185, Compressor Seal - To Atm/Flare: 2, PSV - To Atm/Flare: 1, PSV - To VRS: 4, Pump Seals - Single: 1; Oil Service: Valves - Accessible/Inaccessible: 22, Flange/Connections - Accessible/Inaccessible: 65		

2 Diatomite Equipment

2.1 Combustion Equipment

2.1.1 Steam Generator SG-100

Device ID #	**115058**	***Device Name***	**Steam Generator SG-100**
Rated Heat Input	26.500 MMBtu/Hour	*Physical Size*	26.50 MMBtu/Hour
Manufacturer	PLC Industrial Services	*Operator ID*	SG-100
Model	NB787	*Serial Number*	2079884
Location Note			
Device Description	Generate steam for well injection, North American Magna Flame LE 4211-27-3, Lo NOx burner, flue gas recirculation, fired on produced gas, sulfur content limit of 50 ppmv, Rosemount 3095F flow meter, staged combustion, 9 ppmv NOx @ 3% oxygen, 7 ppmv ROC @ 3% oxygen, 27 ppmv CO @ 3% oxygen		

2.1.2 Steam Generator Feedwater Pump 1

Device ID #	**388632**	***Device Name***	**Steam Generator Feedwater Pump 1**
Rated Heat Input		*Physical Size*	75.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-100
Model		*Serial Number*	
Location Note			
Device Description	Transfer tertiary water to steam generators		

2.2 Tanks

2.2.1 Wash Tank

Device ID #	**115073**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer	Tiger Tanks LLC	*Operator ID*	TK-400
Model	API-650 1000	*Serial Number*	07T2-4562
Location Note	Diatomite Tank Battery		
Device Description	Remove additional water from produced oil prior to shipping tank, connected to the vapor recovery system, if tank is heated: between 150 F to 180 F, depending on pipeline/loading rack operations, 15.5' diameter, 28' high, throughput of 1,000 bbl/day		

2.2.2 Wastewater Tank

Device ID #	**115076**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer	Tiger Tanks Inc.	*Operator ID*	TK-401
Model		*Serial Number*	07T2-5614
Location Note	Diatomite Tank Battery		
Device Description	Hold produced water prior to further treatment and injection, connected to the vapor recovery system, 21.5' diameter, 16' high		

2.2.3 Shipping Tank 1

Device ID #	**115077**	***Device Name***	**Shipping Tank 1**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer	Tiger Tanks LLC	*Operator ID*	TK-402
Model	API-12F 1000	*Serial Number*	07T2-5615
Location Note	Diatomite Tank Battery		
Device Description	Hold crude oil prior to shipping, connected to the vapor recovery system, if tank is heated: between 150 F to 180 F depending on pipeline/loading rack operations, 21.5' diameter, 16' high, throughput of 1,000 bbl/day		

2.2.4 Shipping Tank 2

Device ID #	**115079**	***Device Name***	**Shipping Tank 2**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer	Tiger Tanks Inc.	*Operator ID*	TK-403
Model	API-12F 1000	*Serial Number*	07T2-5616
Location Note	Diatomite Tank Battery		
Device Description	Hold crude oil prior to shipping, connected to the vapor recovery system, if tank is heated: between 150 F to 180 F depending on pipeline/loading rack operations, 21.5' diameter, 16' high, throughput of 1,000 bbl/day		

2.2.5 Wash Tank Water Pump

Device ID #	**115075**	***Device Name***	**Wash Tank Water Pump**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-401
Model		*Serial Number*	
Location Note	Diatomite Tank Battery		
Device Description	Transfer water from wash tank, 1,745 rpm		

2.2.6 Wastewater Tank Oil Skim Pump

Device ID #	**115074**	***Device Name***	**Wastewater Tank Oil Skim Pump**
Rated Heat Input		*Physical Size*	7.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-400
Model		*Serial Number*	
Location Note	Diatomite Tank Battery		
Device Description	Remove oil from the top of water pad in the waste water tank, 1,755 rpm		

2.2.7 Drain Pump

Device ID #	**388737**	***Device Name***	**Drain Pump**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-404
Model		*Serial Number*	
Location Note	Diatomite Tank Battery		
Device Description	Transfer water from bottoms of tanks to wash tank		

2.2.8 Diatomite Oil Pump 1

Device ID #	**115080**	***Device Name***	**Diatomite Oil Pump 1**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-403A
Model		*Serial Number*	
Location Note	Diatomite Tank Battery		
Device Description	Transfer oil from shipping tank to loading rack or LACT, 1,800 rpm		

2.3 Separators

2.3.1 Degas Boot

Device ID #	**115072**	***Device Name***	**Degas Boot**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	S-400
Model	T-400	*Serial Number*	
Location Note	Diatomite Tank Battery		
Device Description	Remove additional gas from produced oil stream prior to wash tank, 1' diameter, 33.5' high, vertical, connected to the vapor recovery system.		

2.3.2 Two Phase Separator 1

Device ID #	**115071**	***Device Name***	**Two Phase Separator 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-300
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Secondary gas separation from produced oil, 7' diameter, 30' long, stainless stain, horizontal, connected to the vapor recovery system.		

2.4 Miscellaneous Equipment

2.4.1 Diatomite Oil and Gas Wells

Device ID #	**115055**	***Device Name***	**Diatomite Oil and Gas Wells**
Rated Heat Input		*Physical Size*	49.00 Active Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	1,000 bbl/day oil production, 0.350 Mscf/day gas production		

2.4.2 Hydrogen Sulfide Removal Vessel 1

Device ID #	**115084**	***Device Name***	**Hydrogen Sulfide Removal Vessel 1**
Rated Heat Input		*Physical Size*	667.00 Cubic Feet
Manufacturer		*Operator ID*	V-303
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Dimensions: 10' diameter x 13.66' high, vertical, permanent lead vessel in lead-lag configuration with Hydrogen Sulfide Removal Vessel 2 (Device ID: 115085)		

2.4.3 Hydrogen Sulfide Removal Vessel 2

Device ID #	**115085**	***Device Name***	**Hydrogen Sulfide Removal Vessel 2**
Rated Heat Input		*Physical Size*	667.00 Cubic Feet
Manufacturer		*Operator ID*	V-304
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Dimensions: 10' diameter x 13.66' high, vertical, permanent lag vessel in lead-lag configuration with Hydrogen Sulfide Removal Vessel 1 (Device ID: 115084)		

2.4.4 Compressor

Device ID #	**388653**	***Device Name***	**Compressor**
Rated Heat Input		*Physical Size*	6.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	C-450
Model		*Serial Number*	
Location Note	Diatomite Gas Plant Chiller		
Device Description	Compress produced gas and transport to gas blending		

2.4.5 Transfer Pump 1

Device ID #	**388738**	***Device Name***	**Transfer Pump 1**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-V300A
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Transfer fluids from V-300 to wash tank		

2.4.6 Liquid Knockout 1

Device ID #	**115082**	***Device Name***	**Liquid Knockout 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-301
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Remove any liquids from gas stream prior to hydrogen sulfide removal, 4' diameter, 8' high, stainless steel, connected to the vapor recovery system		

2.4.7 Liquid Pump 1

Device ID #	**115083**	***Device Name***	**Liquid Pump 1**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-301
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Transfer liquids from V-301 to shipping tank		

2.4.8 Liquid Pump 2

Device ID #	**386434**	***Device Name***	**Liquid Pump 2**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-304
Model		*Serial Number*	
Location Note	Diatomite Gas Plant		
Device Description	Transfer liquids from V-303 and V-304 to shipping tank		

2.5 Diatomite Fugitive Components

Device ID #	**115086**	***Device Name***	**Diatomite Fugitive Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas/Condensate Service: Valves - Category F: 160, Flange/Connections - Category F: 421, PSV - To VRS: 7, Pump Seals - Single: 1; Oil Service: Valves - Category F: 849, Flange/Connections - Category F: 2,924, Pump Seals - Single: 12		

3 Shared Diatomite/Monterey Equipment

3.1 Combustion Equipment

3.1.1 Thermal Oxidizer 1

Device ID #	**386807**	***Device Name***	**Thermal Oxidizer 1**
Rated Heat Input	41.000 MMBtu/Hour	*Physical Size*	41.00 MMBtu/Hour
Manufacturer	Flare Industries	*Operator ID*	ME-350
Model	CEB 1200	*Serial Number*	
Location Note			
Device Description	Combust excess gas, ground flare, enclosed, electric ignition, thermocouple, smokeless, produced gas pilot.		

3.1.2 Flare Filter Coalescer Pump

Device ID #	**388610**	***Device Name***	**Flare Filter Coalescer Pump**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-345
Model		*Serial Number*	
Location Note			
Device Description			

3.1.3 E/S Diesel Generator

Device ID #	115070	*Maximum Rated BHP*	490.00
Device Name	E/S Diesel Generator	*Serial Number*	n/a
Engine Use	Electrical Power	*EPA Engine Family Name*	9DDXL14.0VLD
Manufacturer	Detroit Diesel	*Operator ID*	
Model Year	2009	*Fuel Type*	CARB Diesel - ULSD
Model	S60		
DRP/ISC?	No	*Healthcare Facility?*	No
Daily Hours	2.00	*Annual Hours*	50
Location Note	Phoenix Energy Careaga Lease, Orcutt Oilfield		
Device Description	Tier 3 490 bhp diesel-fired, turbocharged, backup generator equipped with direct diesel injection, an engine control module, a charge ail cooler, and exhaust gas recirculation.		

3.1.4 Open Pipe Flare

Device ID #	**393535**	***Device Name***	**Open Pipe Flare**
Rated Heat Input	23.375 MMBtu/Hour	*Physical Size*	23.37 MMBtu/Hour
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Re-permitted Device ID 115026, used in the event that Thermal Oxidizer 1 is inoperable, 0.500 MMScf/day limit, maximum operation of 20 days per quarter and 30 days per year of operation,		

3.1.4.1 Open Pipe Flare Fugitive Components

Device ID #	**393536**	***Device Name***	**Open Pipe Flare Fugitive Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas/Condensate Service: Valves - Category F: 9, Flange/Connections - Accessible/Inaccessible: 32, Flange/Connections - Category F: 8		

3.2 Miscellaneous Equipment

3.2.1 Loading Rack

Device ID #	**115025**	***Device Name***	**Loading Rack**
Rated Heat Input		*Physical Size*	160.00 BBL/Hour
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Tank battery		
Device Description	Bottom fill, connected to the vapor recovery system.		

3.2.2 Automatic Well Test Skids

Device ID #	**388655**	***Device Name***	**Automatic Well Test Skids**
Rated Heat Input		*Physical Size*	
Manufacturer	Pro Gauga Technologies Inc	*Operator ID*	AWT 01
Model		*Serial Number*	
Location Note			
Device Description	Test produced fluids from the wells, with Allen-Bradley Control Logix Controls		

3.2.3 Flowback and Selection Manifolds

Device ID #	**388657**	***Device Name***	**Flowback and Selection Manifolds**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	Skids 1-9
Model		*Serial Number*	
Location Note			
Device Description	Direct steam and produced fluids to group line		

B EXEMPT EQUIPMENT

1 Exempt Monterey Equipment

1.1 Heat Exchangers

1.1.1 Aerial Cooler

Device ID #	**115039**	***Device Name***	**Aerial Cooler**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description			

1.1.2 Dew Point Controller Chiller

Device ID #	**114498**	***Device Name***	**Dew Point Controller Chiller**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description			

1.1.3 Heat Exchanger 1

Device ID #	**114495**	***Device Name***	**Heat Exchanger 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description			

1.1.4 Heat Exchanger 2

Device ID #	**114496**	***Device Name***	**Heat Exchanger 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description			

1.1.5 Heat Exchanger 3

Device ID #	**115126**	***Device Name***	**Heat Exchanger 3**
Rated Heat Input		*Physical Size*	
Manufacturer	ACE	*Operator ID*	
Model	E72-10	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Includes one gas pre-cooler cooling section, one discharger gas cooling section, two compressor lube oil cooling section, and a mounted v-belt fan drive assembly, vertical, finned tube, air cooled		

1.2 Miscellaneous Equipment

1.2.1 Liquid Trap 1

Device ID #	**115032**	***Device Name***	**Liquid Trap 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	G-14
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note	Near Well #75		
Device Description	Dimensions: 3' diameter x 10' high		

1.2.2 Liquid Trap 2

Device ID #	**115040**	***Device Name***	**Liquid Trap 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note	Hydrogen sulfide scrubber		
Device Description	Dimensions: 30’ diameter x 9’ high		

1.2.3 Dew Point Controller Separator

Device ID #	**114497**	***Device Name***	**Dew Point Controller Separator**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description			

1.2.4 Flare Free Liquid Knockout Drum

Device ID #	**115037**	***Device Name***	**Flare Free Liquid Knockout Drum**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Dimensions: 2’ diameter x 8’ high		

1.2.5 Wastewater Pumps

Device ID #	**115035**	***Device Name***	**Wastewater Pumps**
Rated Heat Input		*Physical Size*	30.00 Brake Horsepower
Manufacturer		*Operator ID*	P-4171 A&B
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Used exclusively for wastewater transfer		

2 Exempt Diatomite Equipment

2.1 Heat Exchangers

2.1.1 Gas Cooler 1

Device ID #	**115081**	***Device Name***	**Gas Cooler 1**
Rated Heat Input		*Physical Size*	25.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	HX-400 HX 4001&4002
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Cool produced gas prior to hydrogen sulfide removal, two 25 hp electric motors, forced draft		

2.1.2 Gas Cooler 2

Device ID #	**386435**	***Device Name***	**Gas Cooler 2**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	HX-402
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Cool TVR gas from Diatomite tanks, two 5 hp electric motors		

2.1.3 Group Line Cooler

Device ID #	**386436**	***Device Name***	**Group Line Cooler**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer	Cooling Products, Inc.	*Operator ID*	HX-510
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Cool produced fluids, two 10 hp electric motors, diatomite group line fin-fan aerial cooler, 12' wide, 26' high, 12' long		

2.2 Miscellaneous Equipment

2.2.1 Recycled Water Filter 1

Device ID #	**388739**	***Device Name***	**Recycled Water Filter 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	SK-500A
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Particulate filter upstream of water softeners		

2.2.2 Recycled Water Filter 2

Device ID #	**388740**	***Device Name***	**Recycled Water Filter 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	SK-500B
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Particulate filter upstream of water softeners		

2.2.3 Softener Skid 1

Device ID #	**388741**	***Device Name***	**Softener Skid 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	SK-800
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Softener for LCSD water		

2.2.4 Softener Skid 2

Device ID #	**388742**	***Device Name***	**Softener Skid 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	SK-801
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Softener for LCSD water		

2.2.5 Steam Manifold Skids

Device ID #	**388658**	***Device Name***	**Steam Manifold Skids**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	Skids 1-9
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description	Measure and direct steam to flowback and selection manifolds		

3 Exempt Shared Diatomite/Monterey Equipment

3.1 Tanks

3.1.1 Propane Tank

Device ID #	**388918**	***Device Name***	**Propane Tank**
Rated Heat Input		*Physical Size*	300.00 Gallons
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.V.8 Storage Of Liquefied/Compressed Gases	
Location Note			
Device Description			

3.2 Miscellaneous Equipment

3.2.1 Vaporizer

Device ID #	**388920**	***Device Name***	**Vaporizer**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 201.A No Potential To Emit Air Contaminants	
Location Note			
Device Description			

E DE-PERMITTED EQUIPMENT

1 Carbon Canister System 1

Device ID #	**115044**	***Device Name***	**Carbon Canister System 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Two carbon canisters, connected in series, each containing 400 lbs of activated charcoal, production tank and vacuum truck loading rack vent through the carbon canisters with a minimum control efficiency of 90-percent, replacement carbon canister kept on site in case of breakthrough		

2 Fugitive Components 1

Device ID #	**115046**	***Device Name***	**Fugitive Components 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Gas/Condensate Service: Valves - Accessible/Inaccessible: 6, Flange/Connections - Accessible/Inaccessible: 6; Oil Service: Valves - Accessible/Inaccessible: 2, Flange/Connections - Accessible/Inaccessible: 9		

3 Production Tank 1

Device ID #	**115043**	***Device Name***	**Production Tank 1**
Rated Heat Input		*Physical Size*	500.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Portable, vapor-tight, Baker-type steel tank, dimensions: 12.5' high x 35' long x 8' wide, equipped with a PSV set at 16 oz/square inch pressure and 0.4 oz/square inch vacuum, contains produced oil, water, and diluent, connected to the carbon canister system		

4 Vacuum Truck Loading Rack 1

Device ID #	**115045**	***Device Name***	**Vacuum Truck Loading Rack 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Serves production tank, vapors sent to the carbon canister system		

5 Carbon Canister System 2

Device ID #	**115101**	***Device Name***	**Carbon Canister System 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Two carbon canisters, connected in series, each containing 400 lbs of activated charcoal, production tank and vacuum truck loading rack vent through the carbon canisters with a minimum control efficiency of 90-percent, replacement carbon canister kept on site in case of breakthrough		

6 Fugitive Hydrocarbons 2

Device ID #	**115103**	***Device Name***	**Fugitive Hydrocarbons 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Gas/Condensate Service: Valves - Accessible/Inaccessible: 6, Flange/Connections - Accessible/Inaccessible: 6; Oil Service: Valves - Accessible/Inaccessible: 2, Flange/Connections - Accessible/Inaccessible: 9		

7 Production Tank 2

Device ID #	**115100**	***Device Name***	**Production Tank 2**
Rated Heat Input		*Physical Size*	500.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Portable, vapor-tight, Baker-type steel tank, dimensions: 12.5' high x 35' long x 8' wide, equipped with a PSV set at 16 oz/square inch pressure and 0.4 oz/square inch vacuum, contains produced oil, water, and diluent, connected to the carbon canister system		

8 Vacuum Truck Loading Rack 2

Device ID #	**115102**	***Device Name***	**Vacuum Truck Loading Rack 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Serves production tank, vapors sent to the carbon canister system		

9 Carbon Canister System 3

Device ID #	**115109**	***Device Name***	**Carbon Canister System 3**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Two carbon canisters, connected in series, each containing 400 lbs of activated charcoal, production tank and vacuum truck loading rack vent through the carbon canisters with a minimum control efficiency of 90-percent, replacement carbon canister kept on site in case of breakthrough		

10 Fugitive Hydrocarbons 3

Device ID #	**115111**	***Device Name***	**Fugitive Hydrocarbons 3**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Gas/Condensate Service: Valves - Accessible/Inaccessible: 6, Flange/Connections - Accessible/Inaccessible: 6; Oil Service: Valves - Accessible/Inaccessible: 2, Flange/Connections - Accessible/Inaccessible: 9		

11 Production Tank 3

Device ID #	**115116**	***Device Name***	**Production Tank 3**
Rated Heat Input		*Physical Size*	500.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Portable, vapor-tight, Baker-type steel tank, dimensions: 12.5' high x 35' long x 8' wide, equipped with a PSV set at 16 oz/square inch pressure and 0.4 oz/square inch vacuum, contains produced oil, water, and diluent, connected to the carbon canister system		

12 Vacuum Truck Loading Rack 3

Device ID #	**115110**	***Device Name***	**Vacuum Truck Loading Rack 3**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	Serves production tank, vapors sent to the carbon canister system		

13 Portable Well Testing System 1

Device ID #	**115042**	***Device Name***	**Portable Well Testing System 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted Device		*Facility Transfer*	
Description			

14 Portable Well Testing System 2

Device ID #	**115099**	***Device Name***	**Portable Well Testing System 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted Device		*Facility Transfer*	
Description			

15 Portable Well Testing System 3

Device ID #	**115108**	***Device Name***	**Portable Well Testing System 3**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Depermitted Device		*Facility Transfer*	
Description			

16 Steel Skid

Device ID #	**115133**	***Device Name***	**Steel Skid**
Rated Heat Input		*Physical Size*	
Manufacturer	Com-Pac Systems	*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description	3/8" ASME SA-36 smooth bottom plate, seal welded around skid perimeter, 2" environmental containment barrier, two drain connections, two draw bars		

17 Pneumatic Gas Compressor

Device ID #	**115036**	***Device Name***	**Pneumatic Gas Compressor**
Rated Heat Input		*Physical Size*	75.00 Horsepower (Electric Motor)
Manufacturer	Chicago	*Operator ID*	
Model		*Serial Number*	
Depermitted		*Facility Transfer*	
Device Description			

10.5 Diatomite Well List

Operator Name	Field Name	API #	Lease Name	Well #	Well Statu	ool WellT	Section	Townsh	Range	Base Meridian	Area Coc	Area Nam
Newbridge Acquisition Holding, LLC	Orcutt	08322476	Careaga	2716X	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322517	Careaga	3024	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322554	Careaga	1312	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322555	Careaga	1715	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322556	Careaga	1716	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322557	Careaga	1814	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322558	Careaga	1815	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322559	Careaga	1816	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322560	Careaga	1817	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322561	Careaga	1915	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322562	Careaga	1916	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322563	Careaga	1917	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322564	Careaga	2624	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322565	Careaga	3318	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322566	Careaga	3823	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322644	Careaga	1514	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322645	Careaga	1515	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322646	Careaga	1516	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322647	Careaga	1517	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322649	Careaga	1616	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322650	Careaga	1617	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322651	Careaga	1714	N	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322652	Careaga	1717	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322653	Careaga	1914	A	OG, SC	31	09N	33W	SB	06	Main
Newbridge Acquisition Holding, LLC	Orcutt	08322654	Careaga	1615	A	OG, SC	31	09N	33W	SB	06	Main