air pollution control district
SANTA BARBARA COUNTY

DRAFT

PERMIT TO OPERATE 8226-R12

and

PART 70 RENEWAL OPERATING PERMIT 8226

PACIFIC COAST ENERGY COMPANY LP
ORCUTT HILL STATIONARY SOURCE
CALIFORNIA COAST LEASE

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

OPERATOR

Pacific Coast Energy Company LP

OWNERSHIP

Pacific Coast Energy Company LP

Santa Barbara County
Air Pollution Control District

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

June 2021

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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
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

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. This is a combined permitting action that covers both the Federal Part 70 permit (renewal of *Part 70 Operating Permit 8226*) as well as the State Operating Permit (reevaluation of *Permit to Operate 8226*). Santa Barbara County is designated as a non-attainment area for the state PM10 ambient air quality standard. As of July 1, 2020, the County achieved attainment status for the ozone state ambient air quality standards.

Part 70 Permitting: The initial Part 70 permit for this facility was issued on May 22, 1999 in accordance with the requirements of the District's Part 70 operating permit program. This permit is the seventh renewal of the Part 70 permit, and may include additional applicable requirements and associated compliance assurance conditions. The California Coast Lease is a part of the Coast Pacific Energy Company Orcutt Hill Stationary Source, which is a major source for VOC[1], NO_X and CO. 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 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.

1.2 Facility Overview

1.2.1 General Overview: The California Coast Lease, located approximately 2.5 miles south of the city of Orcutt, was previously owned and operated for many years by Unocal. Several transfers of ownership/operator have since taken place and are listed below. The most recent change was a name change only from Breitburn Energy to Pacific Coast Energy Company (PCEC) which occurred in December 2011.

[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.

Date of Transfer	New Owner	New Operator
April 9, 1996	Nuevo Energy Company	Torch Operating Company
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company
November 5, 2004	BreitBurn Energy	BreitBurn Energy
December 2011	Pacific Coast Energy	Pacific Coast Energy

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"

PACIFIC ENERGY COMPANY
ORCUTT HILL STATIONARY SOURCE

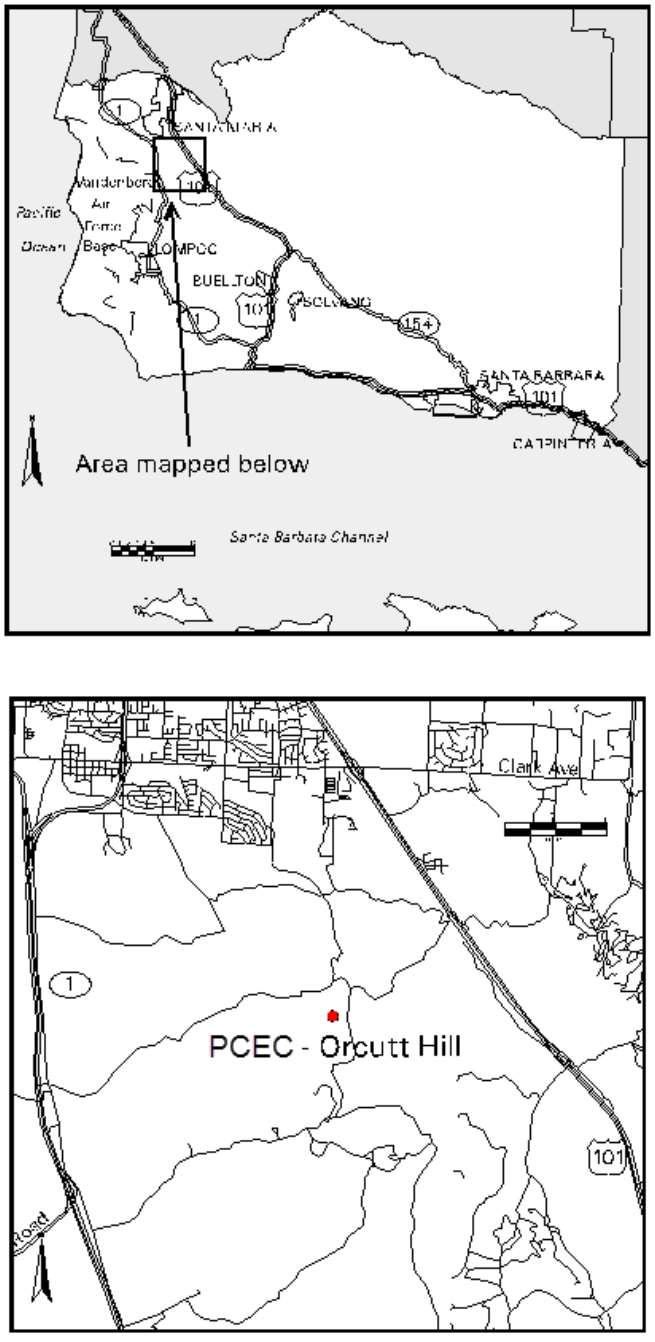

Figure 1.1 Location Map for the California Coast Lease

The *Pacific Coast Energy Company Orcutt Hill stationary source* (SSID 2667), which was originally developed in the 1920s by Union Oil Company, consists of the following facilities:

- 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)

The California Coast Lease consists of the following oil and gas production systems:

- Oil & gas wells
- Oil/water/gas separation systems
- Oil and water storage systems
- Vapor recovery systems
- Oil shipping systems
- Wastewater injection systems
- Gas scrubbing systems
- Gas gathering and shipping systems
- Crude oil loading rack

There are thirteen (13) oil and gas wells subject to permit on the California Coast Lease. Electric motors or internal combustion engines drive well pumps to enhance production. The combustion engines are permitted on PTO 8039-R11. Production passes through two gas/liquid separators. The produced liquids from the wells on the Cal Coast Lease, along with produced liquids from the Hartnell and Squires Leases are piped to the California Coast Lease. Oil and water are separated in the wash tank. Oil is piped to one of two crude storage tanks and the water is sent to the wastewater tank. Oil is metered at the LACT unit and is shipped from the lease via a pipeline. Wastewater is reinjected into the producing formation. The tanks are connected to the vapor recovery system. Collected vapors and gas from the gas gathering system are piped to the Orcutt Hill Compressor Plant.

1.2.2 Facility New Source Review Overview: Most of the equipment on the California Coast Lease was in place and operating before a permit to operate was required. Therefore, much of the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct. However, there have been several facility modifications to this facility that were subject New Source Review. Table 1.1 provides a summary of the New Source Review history of the California Coast Lease.

Table 1.1
New Source Review Overview

Permit Number	Issuance Date	Permitted Modification
ATC 9295	10/05/94	Replace 10,000 bbl wastewater tank with a 5,000 bbl tank and install vapor recovery for the wash tank, the crude storage tank, and the wastewater tank. Superseded by ATC 9295-02.
ATC 9295-02	05/16/95	Replace 10,000 bbl wastewater tank with a 10,000 bbl tank and install vapor recovery for the wash tank, the crude storage tank, and the wastewater tank.
ATC 10934	06/10/03	Replace existing 2000 bbl crude oil tank connected to vapor recovery with a new 2000 bbl crude oil storage tank connected to vapor recovery.
ATC 10833	06/25/03	Installation of new 750 bbl crude oil storage tank connected to vapor recovery.
ATC 11191	08/16/04	Installation of a new 5000 bbl wastewater tank connected to vapor recovery to replace a 10,000 bbl wastewater tank.
ATC 12237	04/19/2007	Increase the size of existing 2000 bbl wash tank to 3000 bbls.
ATC 13514	11/4/2010	Installation of a crude oil loading rack and an increase in the facility crude oil throughput.
ATC 14179	2/28/2014	Installation of new vapor recovery compressors.
ATC 14179-01	12/10/2014	Decrease fugitive hydrocarbon components
ATC 14223	04/01/2014	Installation of a new 3000 bbl wash tank connected to vapor recovery.
ATC 14223-01	01/14/15	Increase fugitive hydrocarbon components.

1.3 Emission Sources

The emissions from the California Coast Lease come from oil and gas wells and their associated cellars, oil/water/gas separation equipment, tanks, sumps and fugitive emission components, such as process-line valves and flanges. Section 4.0 of the permit provides the District's engineering analysis of these emission sources. Section 5.0 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 include:

- Thirteen (13) oil and gas wells and eight (8) well cellars
- Two (2) wash tanks
- One (1) crude storage tank
- One (1) wastewater tank
- Two (2) wastewater pits
- One (1) LACT pit
- Crude oil loading rack
- Fugitive emission components in gas/liquid hydrocarbon service.

A list of all permitted equipment is provided in Section 10.6.

1.4 Emission Control Overview

Air quality emission controls are utilized at the California Coast Lease. The emission controls employed at the facility include:

→ 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.

1.5 Offsets/Emission Reduction Credit Overview

The Pacific Coast Energy Company - Orcutt Hill stationary source triggers offsets for NOx and ROC emissions. See section 7.3 for details.

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 regulate emissions of HAPs from major sources through implementation 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
Vice President of Operations
Pacific Coast Energy Company
1555 Orcutt Hill Rd.
Orcutt, CA 93455

2.0 Process Description

2.1 Process Summary

2.1.1 Production: Oil, water, and gas are produced from wells on the California Coast Lease. Eight wells are equipped with a well cellar that measures approximately six feet by six feet. Historically, the API gravity of the crude oil is 25° with a gas oil ratio of 501 scf/bbl. Electric

motors and internal combustion engines provide power to the well pump units. All internal combustion engines used to power pumping units at the Orcutt Hill Stationary Source are permitted under Permit to Operate 8039-R11.

2.1.2 Gas, Oil, and Water Separation: Produced oil, water and gas are piped to a central tank battery where it passes through a gas/liquid separator. The liquids from the separators are sent to the wash tank where oil and water are separated. Oil is piped to the crude tank and the water is sent to the wastewater tank.

2.1.3 Vapor Recovery: The tanks are connected to a vapor recovery system (VRS) that is equipped with two compressors driven by 15 bhp electric motors. The VRS is assumed to have a 95-percent control efficiency.

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. Vapors collected by the vapor recovery system and gas from the gas gathering system are piped to the Orcutt Hill Compressor Plant (PTO 8174).

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

2.2 Support Systems

There are no additional support systems on the California Coast Lease.

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 comply with District Rule 323.I, as verified through the rule-required recordkeeping.

2.3.2 Solvent Usage: Solvents not used for surface coating thinning may be used on the California Coast Lease 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 California Coast Lease is equipped with two wastewater pits and one LACT pit.

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 10.6 for a complete listing of all permitted equipment.

3.0 Regulatory Review

This Section identifies the federal, state and local rules and regulations applicable to the California Coast Lease.

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 Pacific Coast Energy to maintain a record of each de minimis change that 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. De minimis records are made available to the District upon request. As of June 2020, the de minimis total at the Pacific Coast Energy Company - Orcutt Hill 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 344 (*Petroleum Sumps, Pits and Well Cellars*): The post primary sumps and pits at the California Coast Lease have surface areas less than 1,000 sq. ft., and thus are exempt from this rule based on Section B.4. The well cellars are subject to Section D.3 of this rule. Compliance with this rule reduces well cellar emissions by 70-percent. For future modifications, compliance with District Regulation VIII (*New Source Review*) ensures that future modifications to the facility will comply with these regulations.

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 California Coast 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 tanks at the California Coast 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. The permittee submitted information on March 26, 2002 indicating that this facility is exempt from the requirements of MACT based on a demonstration 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 California Coast Lease. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the California Coast Lease. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to the California Coast 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, PCEC 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 California Coast 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 with 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. The two vapor recovery compressors are rotary vane type compressors which are explicitly excluded from the CARB regulation.

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 10.6. 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). Attachment 10.3 presents the fee calculations for the reevaluated permit.

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 Ringelmann 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 Ringelmann 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. All piston IC engines on the lease are expected to comply with this rule.

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 California Coast 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 piston IC engines on the lease are expected to comply 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 was revised in June 2012 to fulfill 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 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 connected to the vapor recovery system. Compliance with Section E is met by directing all produced gas to the Orcutt Hill Compressor Plant (PTO 8174).

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 California Coast 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 provisions of this rule will be assessed via inspection by the operator and District personnel using an organic vapor analyzer and through analysis of operator records. The California Coast Lease does not perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the vapor recovery system.

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 controls on sumps and pits subject to the rule and 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 site inspections.

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 California Coast 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 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: Routine facility inspections were conducted on April 17, 2019 and June 30, 2020 since issuance of the previous permit renewal. . The inspection reports for the inspections were reviewed as part of the current permit renewal process. The reports indicate that there were no compliance issues resulting from these inspections.

3.5.2 Violations: There are no documented enforcement actions for this facility since the previous permit reevaluation.

3.5.3 Variances: The operator has not applied for any variances 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 or rule requirements are not complied with.
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	This stationary source is a major source
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.
RULE 810: Federal Prevention of Significant Deterioration	New or modified emission units	Major modifications
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 XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	This stationary source is a major source.
REGULATION XIII (RULES 1302-1305): Part 70 Operating Permits	All emission units	This 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 tank, wastewater tank.	Pre-custody transfer oil service tanks with capacities exceeding exemption limits.
RULE 331: Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, et al) used to handle oil and gas.	Components emit fugitive ROCs.
RULE 343: Petroleum Storage Tank Degassing	Wash tank, crude storage tank, wastewater tank.	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.	Eight wells at this facility are equipped with a well cellar. 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	August 25, 2016
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 326	Storage of Reactive Organic Compound Liquids	January 18, 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

There are no process heaters, boilers or steam generators on the California Coast Lease. The internal combustion engines powering the well pumps located on the California Coast Lease are permitted on PTO 8039.

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices installed prior to November 1990 have been quantified using emission factors pursuant to District 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*).

Emissions of reactive organic compounds from piping components (e.g., valves and connections) installed after November 1990 were quantified pursuant to District P&P 6100.061 *(Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts - Modified for Revised ROC Definition*). The component leakpath (clp) count was made consistent with P&P 6100.061.

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 and Crude Oil Storage Tanks: The California Coast Lease utilizes two 3,000 bbl wash tanks for oil-water separation and one 2,000 bbl crude storage tank. The tanks are

vertical, cone roof tanks. The wash tanks each measure 29.7 feet diameter by 24 feet high, with a cone roof 1.9 feet above the shell. The 2000 bbl crude tank measures 29.7 feet diameter by 16 feet high. The tanks 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 Crude Oil Loading Rack: The California Coast Lease utilizes one crude oil loading rack connected to vapor recovery. 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.

4.4.2 Pits, Sumps and Well Cellars: The California Coast Lease is equipped with eight well cellars, two wastewater pits each measuring 5 feet in diameter, and a LACT pit measuring 3 feet in diameter. Well cellar emissions are reduced 70-percent for maintaining the cellars per the requirements of Rule 344. Fugitive emissions from the pits are uncontrolled. These emission estimates are based on 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 Wastewater Tanks: The California Coast Lease uses one (1) vertical, fixed roof wastewater tank. The tank has a 5000 bbl capacity and measures 38.5 feet in diameter by 24 feet high. The tank is served by vapor recovery. Emissions from this 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 both tanks.

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. 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 $PM/PM_{10}/PM_{2.5}$ ratio of 1.0 is assumed.

4.6 Vapor Recovery/Control Systems

The vapor recovery system collects ROC emissions from the tanks. The collected vapors are combined with gas from the gas gathering system and are piped to the Orcutt Hill Compressor Plant. Overall ROC control efficiency for the system is assumed to be 95 percent.

4.7 BACT/NSPS/NESHAP/MACT

To date, this facility has not triggered Best Available Control Technology (BACT), New Source Performance Standards (NSPS) National Emission Standards For Hazardous Air Pollutants (NESHAP) or Maximum Available Control Technology (MACT).

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: 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. The permittee is required to report oil throughput, however this permit requires no specific monitors.

4.8.3 CAM: The Pacific Coast Energy Company - Orcutt Hill 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 no source testing.

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.

All sampling and analyses are required to be performed according to District approved procedures and methodologies. Typically, the appropriate ASTM methods are acceptable. 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 the initial storage tank. However, 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. The 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 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. Section 5.6 (if applicable) provides the estimated emissions from permit exempt equipment and also serves as the Part 70 list of insignificant emissions. The District uses a computer database to accurately track the emissions from a facility. Attachment 10.4 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 ($PM_{2.5}$)

[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

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. The last column in this table 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".

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis assessed 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 facility. There has been no change to the permitted emission totals since issuance of the previous permit renewal.

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. Fugitive emissions from the California Coast Lease emissions units are not counted in the federal definition of potential to emit. However, fugitives are counted in the Federal PTE if the facility is subject to any applicable NSPS or NESHAP requirement.

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 5.4-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.4-2. HAPs emission totals have been revised since issuance of the previous permit renewal based on revised HAPs emission factors.

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.

Table 5.1-1
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Operating Equipment Description

			Device Specifications				Usage Data		Maximum Operating Schedule					
Equipment Category	Description	Dev No	Feed	Parameter	Size	Units	Capacity	Units	Load	hr	day	qtr	year	References
				TVP										
Tanks	Wash Tank	109733	O/W	2.420	3,000	bbls	1,350	bbl/day	1.0	1.0	24	2,190	8,760	A
	Crude Tank	002450	Oil	2.420	2,000	bbls	1,350	bbl/day	1.0	1.0	24	2,190	8,760	A
	Wash Tank	386687	O/W	2.420	3,000	bbls	1,350	bbl/day	1.0	1.0	24	2,190	8,760	A
	Wastewater Tank	107168	Water	2.420	5,000	bbls	--	--	1.0	1.0	24	2,190	8,760	B
				Service										
Pits and Sumps	Well Cellars	002478	O/W	Primary	288	ft^2	--	--	1.0	1.0	24	2,190	8,760	B
	LACT Pit	008202		Oil	7	ft^2	--	--	1.0	1.0	24	2,190	8,760	B
	Wastewater Pits	101115	O/W	Secondary	39	ft^2	--	--						B
Loading Rack	Loading Rack	113496	Oil		2,750	bbls	160	bbl/day	1.0	1.0	24	2,190	8,760	B
Fugitive Components	Valves, Connections, etc	002477	--	--	13	wells	--	--	1.0	1.0	24	2,190	8,760	C
	Pumps/Compressors/Wellheads	002479	--	--	13	wells	--	--	1.0	1.0	24	2,190	8,760	C
	Fugitive Components Leakpaths	386663	--	--	75	clps	--	--	1.0	1.0	24	2,190	8,760	C
	Fugitive Components Leakpaths	387907	--	--	76	clps	--	--	1.0	1.0	24	2,190	8,760	
Solvent Usage (a) (b)	Photochemically Reactive		--	--	various		various	--	1.0	1.0	24	2,190	8,760	D
	Non-Photochemically Reactive		--	--	various		various	--	1.0	1.0	24	2,190	8,760	D

(a) Solvent use for the entire stationary source is based on Rule 317 limits.
(b) Orcutt Hill Stationary Source solvent usage is listed in this permit only.

Table 5.1-2
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Equipment Emission Factors

			Emission Factors							
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**$PM_{2.5/10}$**	**Units**
Tanks	Wash Tank	109733	--	--	--	--	--	--	--
	Crude Tank	002450	--	--	--	--	--	--	--
	Wash Tank	386687							
	Wastewater Tank	107168	--	0.0006	--	--	--	--	lb/ft^2-day
Pits and Sumps	Well Cellars	002478	--	0.0282	--	--	--	--	lb/ft^2-day
	LACT Pit	008202	--	0.0941	--	--	--	--	lb/ft^2-day
	Wastewater Pits	101115	--	0.0126	--	--	--	--	lb/ft^2-day
Loading Rack	Loading Rack	113496	--	--	--	--	--	--	--
Fugitive Components	Valves, Connections, etc	002477	--	--	--	--	--	--	--
	Pumps/Compressors/Wellheads	002479	--	--	--	--	--	--	--
	Fugitive Components Leakpaths	386663	See Emission Calculation Attachment				--	--	--
	Fugitive Components Leakpaths	387907	See Emission Calculation Attachment				--	--	--
Solvent Usage	Photochemically Reactive Non-Photochemically Reactive		Solvent emissions permitted at Rule 317 levels.						

Table 5.1-3
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Hourly and Daily Emissions

Equipment Category	Description	Dev No	NO_x		ROC		CO		SO_x		PM		$PM_{10/2.5}$		Enforcebility	
			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	Basis
Tanks	Wash Tank	109733	--	--	0.04	0.01	--	--	--	--	--	--	--	--	FE	ATC 12237
	Crude Tank	002450	--	--	0.04	0.85	--	--	--	--	--	--	--	--	FE	ATC 10934
	Wash Tank	386687			0.00	0.06									FE	ATC 10833
	Wastewater Tank	107168	--	--	0.03	0.74	--	--	--	--	--	--	--	--	FE	ATC 11191
Pits and Sumps	Well Cellars	002478	--	--	0.34	8.13	--	--	--	--	--	--	--	--	A	--
	LACT Pit	008202	--	--	0.03	0.67	--	--	--	--	--	--	--	--	A	--
	Wastewater Pits	101115	--	--	0.02	0.49	--	--	--	--	--	--	--	--	A	--
Loading Rack	Loading Rack	113496	--	--	0.55	9.47	--	--	--	--	--	--	--	--	B	ATC 13514
Fugitive Components	Valves, Connections, etc	002477	--	--	0.32	7.79	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads	002479	--	--	0.01	0.21	--	--	--	--	--	--	--	--	A	--
	Fugitive Components Leakpaths	386663	--	--	0.01	0.10	--	--	--	--	--	--	--	--	A	PTO 14179
	Fugitive Components Leakpaths	387907	--	--	0.02	0.50	--	--	--	--	--	--	--	--	A	PTO 14223
Solvent Usage	Photochemically Reactive		--	--	8.00	40.00	--	--	--	--	--	--	--	--	FE	Rule 317
	Non-Photochemically Reactive		--	--	450	3,000	--	--	--	--	--	--	--	--	FE	Rule 317

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

Table 5.1-4
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NO_x		ROC		CO		SO_x		PM		$PM_{10/2.5}$		Enforcebility	
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type	Basis
Tanks	Wash Tank	109733	--	--	0.00	0.00	--	--	--	--	--	--	--	--	FE	ATC 12237
	Crude Tank	002450	--	--	0.04	0.16	--	--	--	--	--	--	--	--	FE	ATC 10934
	Wash Tank	386687			0.00	0.01									FE	ATC 10833
	Wastewater Tank	107168	--	--	0.03	0.14	--	--	--	--	--	--	--	--	FE	ATC 11191
Pits and Sumps	Well Cellars	002478	--	--	0.37	1.48	--	--	--	--	--	--	--	--	A	--
	LACT Pit	008202	--	--	0.03	0.12	--	--	--	--	--	--	--	--	A	--
	Wastewater Pits	101115	--	--	0.02	0.09	--	--	--	--	--	--	--	--	A	--
Loading Rack	Loading Rack	113496	--	--	0.01	0.04	--	--	--	--	--	--	--	--	B	ATC 13514
Fugitive Components	Valves, Connections, etc	002477	--	--	0.36	1.42	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads	002479	--	--	0.01	0.04	--	--	--	--	--	--	--	--	A	--
	Fugitive Components Leakpaths	386663	--	--	0.00	0.02	--	--	--	--	--	--	--	--	A	PTO 14179
	Fugitive Components Leakpaths	387907	--	--	0.02	0.09	--	--	--	--	--	--	--	--	A	PTO 14223
Solvent Usage	Photochemically Reactive		--	--	1.83	7.30	--	--	--	--	--	--	--	--	A	--
	Non-Photochemically Reactive		--	--	20.53	82.13	--	--	--	--	--	--	--	--	A	--

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

Table 5.2
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Total Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.11	--	--	--	--
Pits and Sumps	--	0.39	--	--	--	--
Loading Rack	--	0.55	--	--	--	--
Fugitive Components	--	0.36	--	--	--	--
Stationary Source Solvent Usage	--	458.00	--	--	--	--
	0.00	**459.41**	**0.00**	**0.00**	**0.00**	**0.00**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	1.66	--	--	--	--
Pits and Sumps	--	9.29	--	--	--	--
Loading Rack	--	9.47	--	--	--	--
Fugitive Components	--	8.60	--	--	--	--
Stationary Source Solvent Usage	--	3,040.00	--	--	--	--
	0.00	**3,069.02**	**0.00**	**0.00**	**0.00**	**0.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.08	--	--	--	--
Pits and Sumps	--	0.42	--	--	--	--
Loading Rack	--	0.01	--	--	--	--
Fugitive Components	--	0.39	--	--	--	--
Stationary Source Solvent Usage	--	22.36	--	--	--	--
	0.00	**23.26**	**0.00**	**0.00**	**0.00**	**0.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.30	--	--	--	--
Pits and Sumps	--	1.70	--	--	--	--
Loading Rack	--	0.04	--	--	--	--
Fugitive Components	--	1.57	--	--	--	--
Stationary Source Solvent Usage	--	89.43	--	--	--	--
	0.00	**93.04**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.3
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Federal Potential To Emit

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.11	--	--	--	--
Pits and Sumps	--	0.39	--	--	--	--
Loading Rack		0.55				
Stationary Source Solvent Usage	--	458.00	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**459.06**	**0.00**	**0.00**	**0.00**	**0.00**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	1.66	--	--	--	--
Pits and Sumps	--	9.29	--	--	--	--
Loading Rack		9.47				
Stationary Source Solvent Usage	--	3,040.00	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**3,060.43**	**0.00**	**0.00**	**0.00**	**0.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.08	--	--	--	--
Pits and Sumps	--	0.42	--	--	--	--
Loading Rack		0.01				
Stationary Source Solvent Usage	--	22.36	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**22.88**	**0.00**	**0.00**	**0.00**	**0.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{10/2.5}$
Tanks	--	0.30	--	--	--	--
Pits and Sumps	--	1.70	--	--	--	--
Loading Rack		0.04				
Stationary Source Solvent Usage	--	89.43	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**91.48**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.4-1
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Equipment Hazardous Air Pollutant Factors

			Emission Factors					
Equipment Category	Description	Dev No	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Units
Tanks	Wash Tank[1]	109733	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Crude Tank[1]	002450	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Wash Tank[1]	386687	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Wastewater Tank[2]	107168	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
Pits and Sumps[2]	Well Cellars	002478	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	LACT Pit	008202	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Wastewater Pits	101115	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
Loading Rack[3]	Loading Rack	113496	0.1119	0.0011	--	--	0.1554	lb/lb-ROC
Fugitive Components	Valves, Connections, etc[4]	002477	0.2532	0.0026	--	--	0.1494	lb/lb-ROC
	Pumps/Compressors/Wellheads[5]	002479	0.3779	0.0038	--	--	0.1554	lb/lb-ROC
	Fugitive Comoponent Leakpaths[6]	386663	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
	Fugitive Comoponent Leakpaths[6]	387907	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
Solvent Usage[7]	Cleaning/degreasing (estd.)		--	0.0500	0.0500	0.0500	--	lb/lb-ROC
	Exempt Surface Coating		--	0.0500	0.0500	0.0500	--	lb/lb-ROC

References:

[1] The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.606 from Table 3.2.3 of the District's P&P 6100.060.

[2] The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.606 from Table 3.2.3 of the District's P&P 6100.060.

[3] The emission factor, originally in units of lb/lb-TOC, was 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.

[5] The emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.262 from Table 3.2.3 of the District's P&P 6100.060. The ROC/TOC ratio for Compressors is the most conservative therefore it was used.

[6] Gas service component emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.31 from Table 2 of the District's P&P 6100.061. All clps are in gas service.

[7] Solvents assumed to contain 5% benzene, 5% toluene, 5% xylene.

Table 5.4-2
Pacific Coast Energy California Coast Lease: Permit to Operate 8226-R12
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Hexane	Benzene	Toluene	Xylene	Iso-Octane
Tanks	Wash Tank	109733	9.69E-05	4.95E-05	2.89E-05	--	8.25E-06
	Crude Tank	002450	8.24E-03	4.21E-03	2.45E-03	--	7.01E-04
	Wash Tank	386687	5.82E-04	2.97E-04	1.73E-04	--	4.95E-05
	Wastewater Tank	107168	--	--	--	--	6.69E-04
Pits and Sumps	Well Cellars	002478	7.84E-02	3.92E-02	2.45E-02	--	7.35E-03
	LACT Pit	008202	6.41E-03	3.21E-03	2.00E-03	--	6.01E-04
	Wastewater Pits	101115	4.77E-03	2.38E-03	1.49E-03	--	4.47E-04
Loading Rack	Loading Rack	113496	4.92E-03	4.97E-05	--	--	6.84E-03
Fugitive Components	Valves, Connections, etc	002477	3.60E-01	3.64E-03	--	--	2.12E-01
	Pumps/Compressors/Wellheads	002479	1.45E-02	1.46E-04	--	--	5.95E-03
	Fugitive Components Leakpaths	386663	3.02E-03	5.84E-05	--	--	2.69E-03
	Fugitive Components Leakpaths	387907	1.51E-02	2.92E-04	--	--	1.34E-02
Solvent Usage	Cleaning/degreasing (estd.)		--	4.47	4.47	4.47	--
	Exempt Surface Coating		--	5.00E-04	5.00E-04	5.00E-04	--
	Total HAPs (TPY):		**0.50**	**4.53**	**4.50**	**4.47**	**0.25**

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 5.4-3
Pacific Coast Energy Company - Orcutt Hill
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Hexane	[illegible]	Naphthalene	PAH	Toluene	Xylene	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	[illegible]	1,3-Butadiene	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,3-Dichloropropene	Carbon Tetrachloride	Chlorobenzene	Chloroform	Ethylene Dibromide	[illegible]	Lead	Methylene Chloride	Methanol	Phenol	Styrene	Vinyl Chloride	Total - All HAPs
8214 - Orcutt Hill IC Engines	PTO 8839-R9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	[illegible]	[illegible]	–	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.620
8104 - Orcutt Hill Compressor Plant	PTO 8314 - R7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.532
3206 - Cal Coast Lease (Orcutt Hill)	PTO 8285-R7	–	–	4.13	–	–	0.37	0.35	–	–	4.10	4.47	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	14.121
10082 - Orcutt Hill - Steam Generators	PTO 11405-R3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.142
3322 - Pinal Lease	PTO 8562-R8	–	–	6.77E-02	–	–	5.67E-01	3.73E-01	–	–	5.99E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.075
3324 - Squires Lease	PTO 8223-R9	–	–	8.34E-02	–	–	6.72E-01	4.70E-01	–	–	4.64E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.201
3319 - Hartnell Lease	PTO 9020-R7	–	–	5.45E-02	–	–	4.64E-01	3.09E-01	–	–	1.59E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.884
3323 - Rice Ranch Lease (Orcutt Hill)	PTO 9015-R7	–	–	1.29E-03	–	–	4.15E-02	3.08E-02	–	–	6.58E-04	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.081
3316 - Folsom Lease	PTO 9026-R7	–	–	3.65E-02	–	–	3.43E-01	2.62E-01	–	–	1.58E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.548
3320 - Hobbs Lease	PTO 9027-R7	–	–	3.48E-02	–	–	3.08E-01	2.29E-01	–	–	1.09E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.587
3314 - Dome Lease	PTO 9080-R7	–	–	2.97E-02	–	–	2.58E-01	2.20E-01	–	–	1.58E-02	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.364
3495 - Getty Hobbs Lease (Orcutt Hill)	PTO 9031-R7	–	–	1.29E-03	–	–	4.15E-02	7.88E-02	–	–	6.58E-04	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.081
3313 - Fox Lease	PTO 8014-R9	–	–	3.87E-03	–	–	1.60E-01	1.47E-01	–	–	6.58E-04	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.317
3318 - Graciosa Lease	PTO 9028-R7	–	–	7.77E-03	–	–	1.34E-01	1.11E-01	–	–	3.58E-03	5.00E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.257
1984 - Orcutt Hill Field (MVFF)	PTO 11666-R3	–	–	4.60E-04	9.48E-04	–	–	–	–	–	3.29E-03	9.60E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.065
3321 - Newlove Lease	PTO 8240-R9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.969
Total Stationary Source - By Pollutant		0.53	6.46	5.41	0.81	3.03	7.63	5.49	4.12E-02	2.59E-02	4.91	4.53	8.57E-04	1.60E-05	5.13E-03	1.38E-03	7.35E-05	6.14E-04	4.48E-04	2.28E-03	2.62E-04	2.37E-06	0.11	4.33E-03	2.63E-03	2.18E-03	3.04E-03	2.27E-03	2.55E-03	4.44E-03	2.09E-02	1.19E-03	5.48E-03	0.40	3.32E-05	2.65E-03	1.23E-03	33.46

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 Pacific Coast Energy Co. Orcutt Hill 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 approximately 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 process located on the Newlove Lease. This HRA was revised in January 2009, to reflect the status of electrification of injection pump engines and engine locations at that time. 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

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 2019 the District Board adopted the 2019 Ozone Plan. The 2019 Plan provides a three-year update to the 2010 Clean Air Plan. As Santa Barbara County has only recently attained the state eight-hour ozone standard, the 2019 Clean Air Plan demonstrates how the District plans to maintain that standard. The 2019 Clean Air Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

The Pacific Coast Energy Company Orcutt Hill stationary source triggers emission offsets for NOx and ROCs. Tables 7.3-1, 7.3-2 and 7.3-3 summarize the emissions and offset totals for this stationary source.

7.4 Emission Reduction Credits

There are no Emission Reduction Credits associated with the California Coast Lease.

8.0 Lead Agency Permit Consistency

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

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.
(b) ERCs generated from the electrification of seventeen gas fired engines at the Orcutt Hill Stationary Source.
(c) Emission units: 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
Pre-2016 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)(c)]
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)	29-Dec-09	0.405	172 [(a)(b)(d)]
Newlove New Sulfur Scrubber (A13397)	16-Jun-10	0.180	172 [(a)(b)]
Newlove Loading Rack (A13513)	4-Nov-10	0.095	172 [(a)(b)]
Cal Coast Loading Rack & Throughput Increase (A13514)	4-Nov-10	0.129	172 [(a)(b)]
Pinal Loading Rack & Throughput Increase (A13539)	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)	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[(a)]	3.304	1.2	2.753
NOx ERCs[(a)(b)]	18.713	1.2	15.594
TOTAL	**22.016**		**18.347**

Notes:

(a) ERCs are used to offset ROC emissions with a 1.2 distance factor.
(b) Interpollutant trade. NOx ERCs used to offset ROC emissions with a 1.0 interpollutant trade factor.
(c) ERCs from ATC 13000 are still is use despite the cancellation of the permit due to Rule 806.
(d) This value also corrects an error in the ATC 13230 offset table which reflects offsets only for components in gas service. Emissions from components in oil service should have also been offset.

Table 7.3-3
PCEC Orcutt Hill Stationary Source ROC Emissions and ERCs Used After August 25, 2016

REACTIVE ORGANIC COMPOUNDS (ROC)					
PROJECT	Issuance Date	ROC TPY	Distance Factor	ERC Liability	ERC Certificate
ATC 14921 (Wash Tank Replacement)	9-Mar-17	0.440	1.1	0.484	301[1]
ATC/PTO 15256 (MVFF Throughput Increase)	30-Nov-18	0.013	1.1	0.015	462
ATC 15506 (Wash Tank Replacement)	30-Jul-20	0.270	1.1	0.296	507
	TOTAL	**0.453**		**0.499**	

[1] NOx for ROC Interpollutant trade.

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9.0 Permit Conditions

This section lists the applicable permit conditions for the California Coast 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 California Coast 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 **Emergency Provisions:** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule) and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the District, in writing, a "notice of emergency" within 2 days of the emergency. The "notice of emergency" shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [*Re: 40 CFR 70.6, District Rule 1303.F*]

A.3 **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.4 **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.5 **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.6 **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.7 **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 the District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions. [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]*

A.8 **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.9 **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.10 **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.11 **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 that 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 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 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.12 **Grounds for Revocation:** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq*.

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

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 emissions any air contaminants for a period or periods aggregating more than three minutes in any one hour that 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 Orcutt Hill Stationary Source 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.6 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.6 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 this rule as well as the administrative requirements listed in Section F of the rule. Compliance with this condition shall be based on the permittee's compliance with Condition C.6 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.6 of this permit and facility inspections. [*Re: District Rule 324*]

B.9 **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.10 **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 alternatively

(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.11 **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.12 **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:

Dev No.	Equipment
002477	Valves, flanges and other components in hydrocarbon service.
386663	Valves, flanges and other components in hydrocarbon service.
387907	Valves, flanges and other components in hydrocarbon service.

(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/gas collection (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.

(ii) *Fugitive Emissions Inspection and Maintenance Plan (I&M Plan):* The District-approved I&M Plan and any updates shall be implemented for the life of the project. An updated I&M 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.

(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
109733	Wash Tank, 3,000 bbl capacity
002450	Crude Storage Tank, 2,000 bbl capacity
386687	Wash Tank, 3,000 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) Production to the crude oil tanks shall be limited to an average of 1,350 barrels of dry oil per day. The above limits are based on actual days of operation during the month.

(ii) All process operations from the equipment listed in this section shall meet the requirements of District Rules 325 Sections D, E, F and G. Rule 325.D requires the tanks to be connected to vapor collection and removal device(s) and the vapor removal efficiencies to be no less than 90-percent. 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 that process odorous sulfur compounds. Except for emergency cases, the District shall be notified in writing at least two weeks prior to the start of the emptying operation for the purpose of degassing any aboveground tank subject to this rule.

(c) Monitoring:

(i) The volumes of oil (bbls) produced from this facility shall be measured with calibrated meters or with 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 the initial crude oil storage tank or an active flow line into that tank, or from the tank, provided that there is 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.

(d) Recordkeeping: The volume of oil produced each month and the number of days that oil was produced through the tank battery. 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.

C.3 **Wastewater Tanks, Sumps and Pits:** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
107168	Wastewater Tank, 5,000 bbl capacity
008202	LACT Pit, 7 square feet
101115	Wastewater Pits (2), each five feet in diameter

(a) Emission Limits: Mass emissions from the wastewater tank listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4. Emissions from the pits are not federally-enforceable.

(b) Operational Limits: All processing 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.

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 that process odorous sulfur compounds. Except for emergency cases, the District shall be notified in writing at least two weeks prior to the start of the emptying operation for the purpose of degassing any aboveground tank subject to this rule.

(c) Monitoring: The equipment listed in this section is 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 perform the following compliance monitoring:

(i) For all degassing events, monitor the volume purged, characteristics of the vapor purged, and control device/method used.

(d) Recordkeeping: The tanks listed in this section are subject to all the recordkeeping requirements listed in District Rule 325.F. In addition, the permittee shall record the following:

(i) The permittee shall maintain a log of all degassing events, and record all the parameters listed in Section 9.C.3.(c)(i) above.

(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 **Crude Oil Loading Rack:**

(a) Emission Limits: Mass emissions from the loading rack listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4. Emissions from the pits are not federally-enforceable.

(b) Operational Restrictions:

(i) The following throughput limitations shall not be exceeded:

Truck Loading of Oil	160	bbl/hour
Truck Loading of Oil	2,750	bbl/day
Truck Loading of Oil	25,500	bbl/quarter
Truck Loading of Oil	25,500	bbl/year

(ii) 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. The operator shall also 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 District, that is at least as effective in preventing overfill spillage as the system in Condition C.4.b(ii)a. District written approval must be obtained prior to implementing this option.

(c) Monitoring: The volumes of oil (bbls) shipped from this facility shall be measured with calibrated meters or with 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.

(d) Recordkeeping: The tanks listed in this section are subject to all the recordkeeping requirements listed in District Rule 325.F. In addition, the permittee shall record the following:

(i) The dates of oil shipments through the loading rack and the total volume of oil (bbls) shipped on each day listed.

(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 **Well Cellars:** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
002478	Well Cellars (8)

(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 wellhead 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 Section 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.6 **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.7 **Recordkeeping:** The permittee shall maintain all records and logs required by this permit or any applicable federal rule or regulation for a minimum of five calendar years from the date of information collection and log entry at the lease. These records or logs shall be readily accessible and be made available to the District upon request.

C.8 **Emission Offsets:** PCEC shall offset all oxides of nitrogen (NO_x) and reactive organic compound (ROC) emissions pursuant to Tables 7.3-1, 7.3-2 and 7.3-3 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.

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 that 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. A paper copy, as well as a complete PDF electronic copy of these reports, shall be in a format approved by the District. 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. 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) *Surface Coating and Solvent Usage*: On a monthly basis 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.

(c) On a monthly basis, the total volume of oil (bbls) processed by the crude tanks along with the number of days per month of crude tank operation.

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

(e) API gravity, true vapor pressure and storage temperature of each organic liquid tank required to be measured and recorded.

C.11 **External Combustion Units - Permits Required:**

(a) 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.

(b) 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.

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

C.12 **Documents Incorporated by Reference:** PCEC shall implement, and operate in accordance with, the plan listed below. The document listed below, including any District-approved updates thereof, is incorporated herein and shall the full force and effect of a permit condition of this operating permit. This document shall be implemented for the life of the project.

- *Fugitive Emissions Inspection and Maintenance Plan (approved September 27, 2005)*

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 **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.

D.3 **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.

D.4 **Facility Throughput Limitations:** The California Coast Lease production shall be limited to a monthly average of 1,350 barrels of oil per day and 850,000 SCF of gas per day. The permittee shall record in a log the volumes of oil and gas produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month.

D.5 **Abrasive Blasting Equipment:** All abrasive blasting activities performed on the California Coast Lease shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.

D.6 **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.7 **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. 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 and gas produced from the lease 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.8 **Mass Emission Limitations:** Mass emissions for each equipment item (i.e., emissions unit) associated with the California Coast Lease 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.9 **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.10 **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.11 **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 8226-R11

(b) Permit Reevaluation Due Date: June 2, 2024

10.0 Attachments

10.1 Emission Calculation Documentation
10.2 Emission Calculation Spreadsheets
10.3 Fee Calculation
10.4 IDS Tables
10.5 Well List
10.6 Equipment List

10.1 EMISSION CALCULATION DOCUMENTATION – CALIFORNIA COAST 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 provided in 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 Tanks

→ 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 - Piping Components Emitting Fugitive ROCs

→ Emission factors are based on the *District P&P 6100.060* guidelines. (Prior 11/1990)

→ Emission factors are based on the *District P&P 6100.061* guidelines. (Post-11/1990)

→ 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 is assumed due to the implementation of a fugitive inspection and maintenance plan pursuant to Rule 331.

Reference D - Solvents

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

→ All non-exempt solvent emissions for this stationary source are included in the California Coast permit, rather than each individual permit. The limits in the permit are based on the limitations included in Rule 317.

Reference E - Loading Rack

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

10.2 Emission Calculation Spreadsheets

FIXED ROOF TANK CALCULATION (AP-42: Chapter 7 Method)

Basic Input Data	
liquid {1:G13, 2:G10, 3:G7, 4:C, 5:JP, 6:ker, 7:O2, 8:O6} =	4
liquid TVP =	2.5
if TVP is entered, enter TVP temperature (°F) =	110
tank heated {yes, no} =	no
if tank is heated, enter temp (°F) =	
vapor recovery system present? {yes, no} =	yes
is this a wash tank? {yes, no} =	no
will flashing losses occur in this tank? {yes, no} =	no
breather vent pressure setting range (psi) (def = 0.06):	0.06

Tank Data		
diameter (feet) =		29.7
capacity (enter barrels in first col, gals will compute) =	2,000	84,000
conical or dome roof? {c, d} =		c
shell height (feet) =		16
roof height (def = 1):		1
ave liq height (feet):		8
color {1:Spec Al, 2:Dif Al, 3:Lite, 4:Med, 5:Rd, 6:Wh} =		4
condition {1: Good, 2: Poor} =		1
upstream pressure (psig) (def = 0 when no flashing occurs):		0

Liquid Data	A	B
maximum daily throughput (bopd) =		1,350
Ann thruput (gal): (enter value in Column A if not max PTE)		2.070E+07
RVP (psia):		2.04612
°API gravity =		23.8

Computed Values		
roof outage [1] (feet):		0.3
vapor space volume [2] (cubic feet):		5,750
turnovers [3]:		246.38
turnover factor [4]:		0.29
paint factor [5]:		0.68
surface temperatures (°R, °F)		
average [6]:	527.2	67.2
maximum [7]:	539	79
minimum [8]:	515.4	55.4
product factor [9]:		0.75
diurnal vapor ranges		
temperature [10] (fahrenheit degrees):		47.2
vapor pressure [11] (psia):		0.545944
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		1.00614
vapor density [14] (lb/cubic foot):		0.008892
vapor expansion factor [15]:		0.125
vapor saturation factor [16]:		0.693192
vented vapor volume (scf/bbl):		8
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Attachment: A-1
Permit: PTO 8226-R12
Date: 03/16/21
Tank: Crude Oil Storage Tank
Name:
Filename:
District: Santa Barbara
Version: Tank-2b.xls

PRINT

Paint Factor Matrix	paint condition	
paint color	good	poor
spec alum	0.39	0.49
dif alum	0.60	0.68
lte grey	0.54	0.63
med grey	0.68	0.74
red	0.89	0.91
white	0.17	0.34

Molecular Weight Matrix	
liquid	mol wt
gas rvp 13	62
gas rvp 10	66
gas rvp 7	68
crude oil	50
JP -4	80
jet kerosene	130
fuel oil 2	130
fuel oil 6	190

Adjusted TVP Matrix	
liquid	TVP value
gas rvp 13	7.908
gas rvp 10	5.56
gas rvp 7	3.932
crude oil	1.00614
JP -4	1.516
jet kerosene	0.0103
fuel oil 2	0.009488
fuel oil 6	0.0000472

RVP Matrix	
liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	2.0461192
JP -4	2.7
jet kerosene	0.029
fuel oil 2	0.022
fuel oil 6	0.00019

Long-Term VRU_Eff = 95.00%

Short-Term VRU_Eff = 95.00%

Emissions	Uncontrolled ROC emissions			Controlled ROC emissions		
	lb/hr	lb/day	ton/year	lb/hr	lb/day	ton/year
breathing loss [17] =	0.16	3.92	0.72	0.01	0.20	0.04
working loss [18] =	0.54	13.07	2.39	0.03	0.65	0.12
flashing loss [19] =	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS =	0.71	16.99	3.10	0.04	0.85	0.16

FIXED ROOF TANK CALCULATION (AP-42: Chapter 7 Method)

Basic Input Data	
liquid {1:G13, 2:G10, 3:G7, 4:C, 5:JP, 6:ker, 7:O2, 8:O6} =	4
liquid TVP =	1.6
if TVP is entered, enter TVP temperature (°F) =	80
tank heated {yes, no} =	no
if tank is heated, enter temp (°F) =	
vapor recovery system present? {yes, no} =	yes
is this a wash tank? {yes, no} =	yes
will flashing losses occur in this tank? {yes, no} =	no
breather vent pressure setting range (psi) (def = 0.06):	0.06

Attachment: A-2
Permit: PTO 8226-R12
Date: 03/18/21
Tank: Wash Tanks (2)
Name:
Filename:
District: Santa Barbara
Version: Tank-2b.xls

PRINT

Tank Data		
diameter (feet) =		29.7
capacity (enter barrels in first col, gals will compute) =	3,000	126,000
conical or dome roof? (c, d) =		c
shell height (feet) =		24
roof height (def = 1):		1
ave liq height (feet):		23
color {1:Spec Al, 2:Dff Al, 3:Lite, 4:Med, 5:Rd, 6:Wh} =		4
condition {1: Good, 2: Poor} =		1
upstream pressure (psig) (def = 0 when no flashing occurs):		25

Liquid Data	A	B
maximum daily throughput (bopd) =		1,350
Ann thruput (gal): (enter value in Column A if not max PTE)		2.070E+07
RVP (psia):		2.34758
°API gravity =		23.8

Computed Values		
roof outage [1] (feet):		0.3
vapor space volume [2] (cubic feet):		901
turnovers [3]:		164.25
turnover factor [4]:		0.35
paint factor [5]:		0.68
surface temperatures (°R, °F)		
average [6]:	527.2	67.2
maximum [7]:	539	79
minimum [8]:	515.4	55.4
product factor [9]:		0.75
diurnal vapor ranges		
temperature [10] (fahrenheit degrees):		47.2
vapor pressure [11] (psia):		0.639121
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		1.20949
vapor density [14] (lb/cubic foot):		0.010689
vapor expansion factor [15]:		0.132
vapor saturation factor [16]:		0.923076
vented vapor volume (scf/bbl):		16
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Paint Factor Matrix

paint color	paint condition good	poor
spec alum	0.39	0.49
dff alum	0.60	0.68
lite grey	0.54	0.63
med grey	0.68	0.74
red	0.89	0.91
white	0.17	0.34

Molecular Weight Matrix

liquid	mol wt
gas rvp 13	62
gas rvp 10	66
gas rvp 7	68
crude oil	50
JP -4	80
jet kerosene	130
fuel oil 2	130
fuel oil 6	190

Adjusted TVP Matrix

liquid	TVP value
gas rvp 13	7.908
gas rvp 10	5.56
gas rvp 7	3.932
crude oil	1.20949
JP -4	1.516
jet kerosene	0.0103
fuel oil 2	0.009488
fuel oil 6	0.0000472

RVP Matrix

liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	2.3475751
JP -4	2.7
jet kerosene	0.029
fuel oil 2	0.022
fuel oil 6	0.00019

Long-Term
VRU_Eff = 95.00%

Short-Term
VRU_Eff = 95.00%

Emissions	Uncontrolled ROC emissions lb/hr	lb/day	ton/year	Controlled ROC emissions lb/hr	lb/day	ton/year
breathing loss [17] =	0.04	1.04	0.19	0.00	0.05	0.01
working loss [18] =	0.00	0.00	0.00	0.00	0.00	0.00
flashing loss [19] =	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS =	**0.04**	**1.04**	**0.19**	**0.00**	**0.05**	**0.01**

CRUDE OIL LOADING RACK EMISSION CALCULATIONS (Ver. 4.2)

Attachment: A-3
Permit Number: PTO 8226-R12
Facility: Cal Coast 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)	2.500	Permit Application
Liquid Temperature (°F)	110	Permit Application
Loading Rate (bbl/hr)	160.00	Permit Application
Storage Capacity (bbl)	2,750	Permit Application
Daily Production (bbl)	1,350	Permit Application
Annual Production (bbl)	25,550	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)	17.19	Calculated Value
Annual Hours Loading (hours)	159.69	Calculated Value
Loading Loss (lb / 1,000 gals)	1.6395	Calculated Value

Crude Oil Loading Rack ROC Potential to Emit

Controlled Potential to Emit	
lb/day	**9.47**
TPY	**0.04**

Processed By: JJM Date: June 2021

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

Attachment: A-4
Permit Number: PTO 8826-R12
Facility: Cal Coast Lease

Input Data

Facility Information	*Value*	*Units*	*Reference*
Number of Active Wells at Facility	13	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	15	degrees API	Permit Application
Facility Model Number	5	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	2.8053	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]	7.29	1.33
Sumps, Wastewater Tanks and Well Cellars[b]	10.03	1.83
Oil/Water Separators[b]	0.00	0.00
Pumps/Compressors/Well Heads[a]	0.21	0.04
Enhanced Oil Recovery Fields	0.00	0.00
Total ROC Potential to Emit[c]	**17.53**	**3.20**

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	13	wells	Permit Application
Wellhead Emissions	0.1261	lb-ROC/day	Calculated Value
FHC from Pumps	0.0507	lb-ROC/day	Calculated Value
FHC from Compressors	0.8827	lb-ROC/day	Calculated Value
Total ROC Emissions	**1.06**	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]	8	288	8.13		
LACT Pit		7	0.67		
Wastewater Pits		39		0.49	
Daily ROC Emissions (lb/day)			**8.80**	**0.49**	**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**
Wastewater Tank	0	0	0.00		
	0	1,170		0.74	
	0	0			0.00
Daily ROC Emissions (lb/day)			**0.00**	**0.74**	**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: June 2021

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

Attachment: A-5
Permit Number: 8226-R12
Facility: Cal Coast Lease

Facility Information

Facility Type (Enter X Where Appropriate)

Production Field	Gas Processing Plant	Refinery	Offshore Platform
X			

Gas/Condensate Service Component

Component Type	Component Count	THC Emission Factor (lb/day-c/p)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[a,c]	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Valves - Accessible/Inaccessible	10	0.295	0.31	1.46	0.80	0.01	0.29	0.01	0.05
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	0	0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Category G	0	0.295	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	125	0.070	0.31	2.83	0.80	0.02	0.59	0.03	0.11
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	0	0.070	0.31	0.00	0.90	0.00	0.00	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	1	2.143	0.31	0.66	0.80	0.01	0.13	0.01	0.02
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	-1	6.670	0.31	-2.07	0.80	-0.02	-0.41	-0.02	-0.08
PSV - To VRS	0	6.670	0.31	0.00	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	**151**			**2.99**		**0.02**	**0.60**	**0.03**	**0.11**

Oil Service Components

Component Type	Component Count	THC Emission Factor (lb/day-c/p)[a]	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control Efficiency[a,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	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	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	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	**0**			**0.00**		**0.00**	**0.00**	**0.00**	**0.00**

Total	151			2.99		0.02	0.60	0.03	0.11

Notes:
a. District Policy and Procedure 6100.001.1998.
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: June 2021

10.3 Fee Calculations

air pollution control district
SANTA BARBARA COUNTY

FEE STATEMENT
PT-70/Reeval No. 08226 - R12
FID: 03206 Cal Coast Lease (Orcutt Hill) / SSID: 02667

Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
109733	Wash tank	A6	126.000	4.22	Per 1000 gallons	No	1	1.000	531.72	0.00	0.00	531.72
386687	Wash Tank	A6	126.000	4.22	Per 1000 gallons	No	1	1.000	531.72	0.00	0.00	531.72
002450	Crude Oil Storage Tank	A6	84.000	4.22	Per 1000 gallons	No	1	1.000	354.48	0.00	0.00	354.48
107168	Wastewater Tank	A6	210.000	4.22	Per 1000 gallons	No	1	1.000	886.20	0.00	0.00	886.20
387907	Fugitive Components	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386663	Fugitive Components	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
002477	Valves & Fittings	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
002479	Oil and Gas Wellheads	A1.a	1.000	73.54	Per equipment	No	13	1.000	956.02	0.00	0.00	956.02
008202	LACT pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101115	Wastewater pits	A1.a	1.000	73.54	Per equipment	No	2	1.000	147.08	0.00	0.00	147.08
101117	Sampler pump	A2	0.750	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
101118	Transfer pump	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
101119	Weigh meters	A1.a	1.000	73.54	Per equipment	No	2	1.000	147.08	0.00	0.00	147.08
101120	Gas/liquid separators	A1.a	1.000	73.54	Per equipment	No	2	1.000	147.08	0.00	0.00	147.08
101121	Bottom pump	A2	0.750	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07

101122	Pit pump	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
101123	Condensate scrubber	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101124	Gas boot	A1.a	1.000	73.54	Per equipment	No	2	1.000	147.08	0.00	0.00	147.08
101126	Vessel	A6	1.000	4.22	Per 1000 gallons	Min	1	1.000	73.07	0.00	0.00	73.07
101128	Vessel	A6	1.000	4.22	Per 1000 gallons	Min	1	1.000	73.07	0.00	0.00	73.07
113496	Crude Oil Loading Rack	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386647	Vapor Recovery Compressor #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386648	Vapor Recovery Compressor #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386667	Electric Motor	A2	15.000	38.13	Per total rated hp	No	1	1.000	571.95	0.00	0.00	571.95
	Device Fee Sub-Totals =								**$5,796.70**	**$0.00**	**$0.00**	
	Device Fee Total =											**$5,796.70**

Permit Fee

Fee Based on Devices **$5,796.70**

Fee Statement Grand Total = $5,796

Notes:

(1) Fee Schedule Items are listed in District Rule 210, Fee Schedule "A".
(2) The term "Units" refers to the unit of measure defined in the Fee Schedule.

10.4 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{10/2.5}$
PTO 8226 R11 – California Coast Lease						
lb/day		3069.02				
tons/year		93.04				

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{10/2.5}$
PTO 8226 R11 – California Coast Lease						
lb/day		3069.02				
tons/year		93.04				

Table 3
Federal PT-70 Facility Potential to Emit (PT 70 FPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{10/2.5}$
PTO 8226 R11 – California Coast Lease						
lb/day		3060.43				
tons/year		91.48				

Table 4
Stationary Source Emissions

	NO_X	ROC	CO	SO_X	TSP	$PM_{10/2.5}$
PCEC Orcutt Hill Stationary Source						
lbs/day	1762.49	3566.82	2028.28	115.60	44.77	44.77
tons/year	245.23	165.97	217.61	16.07	6.82	6.82

10.5 Well List

CA Well Results [Active Wells only]

County:Santa Barbara 083 Field:Orcutt Operator Code:B6127 Lease:California Coast

District	Operator Name	Field Nam	API #	Lease Name	Well	Well Statu	Pool WellType	Sectio	Townshi	Rang	Base Meridia	Area Cod	Area Nam
3	Pacific Coast Energy Company LP	Orcutt	08302131	California Coast	2	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302132	California Coast	3	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302133	California Coast	4	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302134	California Coast	5	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302137	California Coast	9	I	OG	27	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302140	California Coast	12	I	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302141	California Coast	13	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302143	California Coast	22	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08302144	California Coast	23	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08321055	California Coast	26	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08300578	California Coast	1	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08300673	California Coast	21	A	OG	26	09N	34W	SB	06	Main
3	Pacific Coast Energy Company LP	Orcutt	08301006	California Coast	6	I	OG	26	09N	34W	SB	06	Main

10.6 Equipment List

Santa Barbara County Air Pollution Control District – Equipment List

PT-70/Reeval 08226 R12 / FID: 03206 Cal Coast Lease (Orcutt Hill) / SSID: 02667

A PERMITTED EQUIPMENT

1 Wash tank

Device ID #	**109733**	***Device Name***	**Wash tank**
Rated Heat Input		*Physical Size*	3000.00 BBL
Manufacturer		*Operator ID*	1000
Model		*Serial Number*	
Location Note			
Device Description	3,000 bbl capacity, ID# , 29.7 feet in diameter by 24 feet high, with a cone roof 1.9 feet above the shell, connected to the vapor recovery system Replaced DID 002449 under ATC 12237.		

2 Wash Tank

Device ID #	**386687**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	3000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	3000 barrel capacity; 29.7 feet in diameter by 24.0 feet high; connected to vapor recovery.		

3 Crude Oil Storage Tank

Device ID #	**002450**	***Device Name***	**Crude Oil Storage Tank**
Rated Heat Input		*Physical Size*	2000.00 BBL
Manufacturer		*Operator ID*	1001
Model		*Serial Number*	
Location Note			
Device Description	2,000 bbl capacity, ID# 1001, 29.7 feet in diameter by 16 feet high, with a cone roof 1.9 feet above the shell, connected to the vapor recovery system.		

4 Wastewater Tank

Device ID #	**107168**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	5000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	5000 barrels in capacity; dimensions: 38.5 feet in diameter by 24 feet high, connected to vapor recovery.		

5 O&G Wells, Cellars and Unassociated Valves & Flanges

5.1 Fugitive Components

Device ID #	**387907**	***Device Name***	**Fugitive Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Associated with PTO 14223		

5.2 Fugitive Components

Device ID #	**386663**	***Device Name***	**Fugitive Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Cal Coast Lease		
Device Description	Associated with PTO 14179		

5.3 Valves & Fittings

Device ID #	**002477**	***Device Name***	**Valves & Fittings**
Rated Heat Input		*Physical Size*	13.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device	Valves, fittings and flanges, not directly associated with other permitted		

Description	equipment items, which emit fugitive hydrocarbon emissions.

5.4 Oil and Gas Wellheads

Device ID #	**002479**	***Device Name***	**Oil and Gas Wellheads**
Rated Heat Input		*Physical Size*	14.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

6 Well Cellars

Device ID #	**002478**	***Device Name***	**Well Cellars**
Rated Heat Input		*Physical Size*	288.00 Square Feet
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	8 well cellars, each approximately 6' by 6'.		

7 LACT pit

Device ID #	**008202**	***Device Name***	**LACT pit**
Rated Heat Input		*Physical Size*	7.07 Square Feet Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	7 square feet surface area.		

8 Wastewater pits

Device ID #	**101115**	***Device Name***	**Wastewater pits**
Rated Heat Input		*Physical Size*	19.63 Square Feet Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			

Device Description	Two (2), each five feet in diameter.

9 LACT transfer system

10 Sampler pump

Device ID #	**101117**	***Device Name***	**Sampler pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 0.75 hp electric motor.		

11 Transfer pump

Device ID #	**101118**	***Device Name***	**Transfer pump**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

12 Weigh meters

Device ID #	**101119**	***Device Name***	**Weigh meters**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Each 4 feet in diameter by 5 feet long, connected to the gas gathering system.		

13 Gas/liquid separators

Device ID #	**101120**	***Device Name***	**Gas/liquid separators**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Each 3.5 feet in diameter by 10 feet long, connected to the gas gathering system.		

14 Bottom pump

Device ID #	**101121**	***Device Name***	**Bottom pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 0.75 hp electric motor.		

15 Pit pump

Device ID #	**101122**	***Device Name***	**Pit pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 3 hp electric motor.		

16 Condensate scrubber

Device ID #	**101123**	***Device Name***	**Condensate scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device	2 feet in diameter by 4 feet long.		

Description

17 Gas boot

Device ID #	**101124**	***Device Name***	**Gas boot**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	2 feet in diameter by 24 feet high, connected to the gas gathering system. There are two external gas boots; one on the wash tank and one on the stock tank.		

18 Vessel

Device ID #	**101126**	***Device Name***	**Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	4 feet in diameter by 7 feet long, located on the gas gathering line near Cal Coast #11.		

19 Vessel

Device ID #	**101128**	***Device Name***	**Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	4 feet in diameter by 7 feet long, located on the gas gathering line near Cal Coast #12.		

20 Crude Oil Loading Rack

Device ID #	**113496**	***Device Name***	**Crude Oil Loading Rack**
Rated Heat Input		*Physical Size*	160.00 BBL/Day
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Crude oil loading rack connected to the existing vapor recovery system.		

21 Vapor Recovery Compressor #1

Device ID #	**386647**	***Device Name***	**Vapor Recovery Compressor #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Hy-Bon	*Operator ID*	
Model	HB-50	*Serial Number*	
Location Note	Cal Coast Lease		
Device Description	Driven by a 15 horsepower Baldor Industries electric motor.		

22 Vapor Recovery Compressor #2

Device ID #	**386648**	***Device Name***	**Vapor Recovery Compressor #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Hy-Bon	*Operator ID*	
Model	HB-50	*Serial Number*	
Location Note	Cal Coast Lease		
Device Description	Driven by a 15 horsepower Baldor Industries electric motor.		

23 Electric Motor

Device ID #	**386667**	***Device Name***	**Electric Motor**
Rated Heat Input		*Physical Size*	15.00 Horsepower (Electric Motor)
Manufacturer	Baldor Industries	*Operator ID*	
Model		*Serial Number*	
Location Note	Cal Coast Lease		
Device Description	Used to drive the vapor recovery compressors.		