air pollution control district
SANTA BARBARA COUNTY

DRAFT

PERMIT TO OPERATE 8240-R11

and

PART 70 RENEWAL OPERATING PERMIT 8240

PACIFIC COAST ENERGY COMPANY LP
ORCUTT HILL STATIONARY SOURCE

NEWLOVE LEASE - NON THERMAL (Part I)

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

PART I – NON-THERMAL NEWLOVE LEASE

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ABBREVIATIONS/ACRONYMS

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

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (renewal of *Part 70 Operating Permit 8240*) as well as the State Operating Permit (reevaluation of *Permit to Operate 8240*). 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. This permit consists of two parts: Part I addresses the original Newlove Lease, also referred to as the *Non-Thermal* portion of the facility, and Part II, which consists of modifications at this lease permitted under PTO 12084 and referred to as the *Diatomite Project*. Due to the size and complexity of PTO 12084, Sections 1 (Introduction) through Section 9.C (Equipment Specific Conditions) of PTO 12084 have been incorporated, in their entirety, as Part II of this permit.

The Newlove Lease is a part of the Pacific Coast 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 (Part I and Part II) are enforceable by the District, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "District-only" enforceable.

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

This reevaluation incorporates greenhouse gas emission calculations for the stationary source. On January 20, 2011, the District revised Rule 1301 to include greenhouse gases (GHGs) that are

[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.

"subject to regulation" in the definition of "Regulated Air Pollutants". District Part 70 operating permits incorporate the revised definition.

1.2 Facility Overview

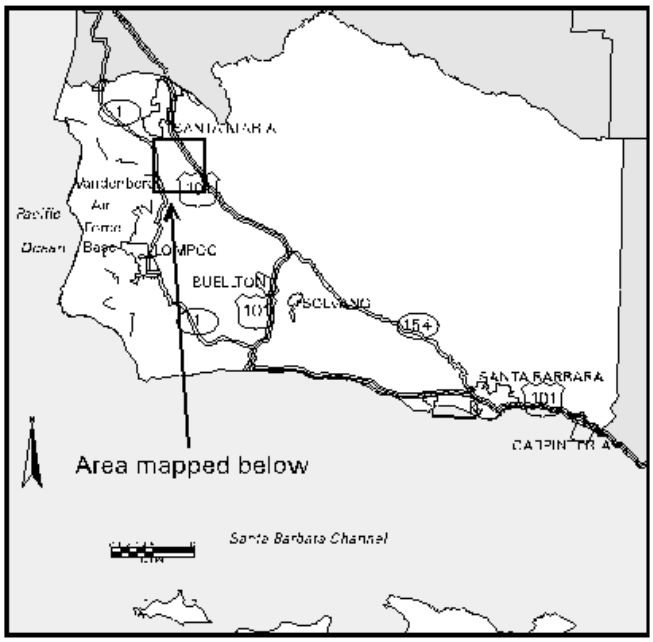
1.2.1 General Overview: The Newlove Lease, located approximately 2.5 miles south of the city of Orcutt, was previously owned and operated for many years by Unocal. Several transfers of ownership/operator have since taken place and are listed below. The most recent change was a name change only from Breitburn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

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 1, 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 COAST ENERGY - ORCUTT HILL STATIONARY SOURCE



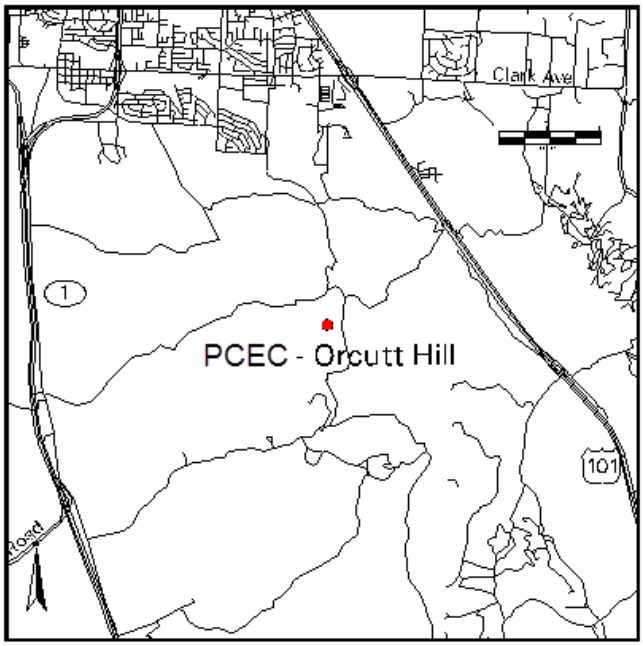


Figure 1.1 Location Map for the Newlove Lease

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 Newlove 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
- Gas fired steam generators
- Water polishing system

Oil, water and gas are produced from seventy-eight wells on the Newlove Lease by conventional means, i.e., downhole well pumps. These wells, as well as the equipment used to process the fluids from these wells are separate and distinct from the wells and equipment associated with the Diatomite Project. Electric motors power downhole well pumps to augment well production from these wells. Production from these wells, along with production from the Graciosa Lease is piped to the Newlove Lease tank battery where it passes through a gas/liquid separator. The liquids are sent to the wash tanks where oil and water are separated. The oil is piped to the crude tank and the water is sent to the wastewater tank at the Newlove Flats injection facility. Oil is metered at the LACT unit and is shipped from the lease via a pipeline. Wastewater is reinjected into the producing formation at various injection wells. The tanks are connected to the vapor recovery system. The collected vapors and gas from the gas gathering system are piped to the Orcutt Hill Compressor Plant. These are the original wells and equipment at the Newlove Lease and referred to as the *Non-Thermal* operations.

1.2.2 Facility New Source Review Overview: Much of the equipment on the Newlove Lease was in place and operating before a permit to operate was required. However, there have been numerous subsequent equipment installations subject to New Source Review requirements. Table 1.1 provides a summary of the New Source Review history for equipment associated with the non-thermal operations at the Newlove Lease.

Table 1.1
New Source Review Overview

Permit Number	Issuance Date	Permitted Modification
ATC 4259	11/06/80	Installation of a Wemco flotation cell. This equipment is out of service and no longer included in the Permit to Operate.
ATC 6416	08/05/85	Installation of vapor recovery on the crude oil tank and three wash tanks.
ATC 9248	01/05/98	Install vapor recovery on the 10,000 bbl and 1,000 bbl wastewater tanks.
ATC 11909	01/26/06	Removal of 10K barrel wastewater and replace with new 10K barrel wastewater tank controlled with vapor recovery.
ATC 12144	02/12/07	Installation of new vapor recovery compressor.
ATC 12273	07/18/07	Replacement of the existing 3,000 bbl wash tank with new 3,000 bbl wash tank.
ATC 12354	10/02/07	Replacement of the existing 1,000 bbl wash tank with new 1,000 bbl wash tank.
ATC 13000	07/17/2009	Install a Thermal Oxidizer
ATC 13134	06/15/2009	Increase Facility Throughput
ATC 13140	02/12/2009	Permit 29 Non-Diatomite Wells
ATC 13230	12/29/2009	Permit 5 Non-Diatomite Wells
ATC 13368	11/10/2011	Vacuum Truck Washout Pits
ATC 13397	06/16/2010	Install H_2S Scrubber
ATC 13513	11/04/2010	Install Crude Oil Loading Rack
PTO 8240-01	03/18/2013	Modify PC C.7 (fuel gas monitoring)
ATC 14019	05/13/2013	Install Backup VRU
ATC 14385	10/14/2014	Install Miscellaneous Vessels
ATC 14693	12/10/2015	Replace floor of 3,000 bbl Wash Tank
ATC 15506	07/30/2020	Replace existing 3,000 bbl. Wash Tank

1.3 Emission Sources

Emissions from equipment associated with the non-thermal operations at the Newlove Lease consist of 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 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

- Seventy-eight oil and gas wells and twenty-nine (29) well cellars
- Three (3) wash tanks
- One (1) crude storage tank
- Two (2) wastewater tanks
- One (1) emergency overflow tank
- Six (6) wastewater pits
- One (1) spill catch pan
- Vacuum Truck Washout Pits, Fugitive emission components in gas/liquid hydrocarbon service
- Crude Oil Loading Rack

A list of all permitted equipment is provided in Section 10.3.

1.4 Emission Control Overview

Air quality emission controls are utilized at the Newlove Lease for a number of emission units. 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.

→ The storage tanks are connected to a vapor recovery system. A 95-percent control efficiency is applied for the use of vapor recovery. The vapors will be sent to the steam generators for destruction.

→ An H_2S scrubber installed at the K-4 compressor (located near well #326H) treats solution gas released from the well fluid streams during processing.

1.5 Offsets/Emission Reduction Credit Overview

The Pacific Coast Energy Company - Orcutt Hill Stationary Source triggers offsets for NO_x 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 also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability.

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

Phil Brown -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 Overview: Oil, water, and gas are produced from seventy-eight wells associated with the non-thermal operations on the Newlove Lease. The wells are produced using downhole well pumps powered by electric motors. Twenty-nine of the 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.

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

2.1.3 Vapor Recovery: The tanks are connected to a vapor recovery system (VRS) equipped with compressor driven 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.

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

2.2 Support Systems

There are no additional support systems.

2.3 Maintenance/Degreasing Activities

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

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

2.4 Planned Process Turnarounds

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

2.5 Other Processes

2.5.1 Pits and Sumps: The Newlove Lease is equipped with six wastewater pits and one spill catch pan. Two vacuum truck washout pits are used to separate their liquid contents from their solid contents

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

2.6 Detailed Process Equipment Listing

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

3.0 Regulatory Review

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

3.1 Rule Exemptions Claimed

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

- **Section D.6 De Minimis Exemptions**: This section requires PCEC to maintain a record of each *de minimis* change, which shall include emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the District upon request. As of June 2020, the de minimis total at the 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 343 (*Petroleum Storage Tank Degassing*): The original storage tanks are subject to a District-approved tank degassing plan.

- 🕮 District Rule 344 (*Petroleum Sumps, Pits and Well Cellars*): The post primary sumps and pits at the Newlove Lease have surface areas less than 1,000 sq. ft., and thus are exempt from this rule based on Section B.4. 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 Newlove Lease was constructed and permitted prior to the applicability of these regulations. All modifications are subject to the District's New Source Review regulation. Compliance with the regulation assures compliance with 40 CFR 51/52.

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

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

3.2.4 40 CFR Part 63 {*MACT*}: On June 17, 1999, EPA promulgated Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. This facility currently is not subject to the provisions of this Subpart. Information was submitted on March 26, 2002 indicating its source is exempt from the requirements of MACT because they demonstrated that this facility is not a "major source" as defined in 40 CFR 63.761. The permittee verified that this lease does not store crude oil with an API gravity of 40^{o} or greater, and does not have a glycol reboiler. On March 27, 2002 the District issued a letter agreeing to 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 Newlove Lease. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the Newlove Lease. Table 3.2 lists the federally-enforceable District promulgated rules that are

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

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

3.3 Compliance with Applicable State Rules and Regulations

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

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

3.3.3 Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (CCR Title 17, Section 95665 *et. Seq.*): On October 1, 2017, the California Air Resources Board (CARB) finalized this regulation, which establishes greenhouse gas emission standards for onshore and offshore crude oil and natural gas production facilities. This facility is subject to the provisions of this regulation. The separators and tanks at this facility satisfy the requirements of the CARB regulation through the use of a vapor collection system. This facility is exempt from the leak detection and repair (LDAR) requirements of the CARB regulation per Section 95669(b)(1), which exempts components, including components found on tanks, separators, wells and pressure vessels, that are subject to District Rule 331 LDAR requirements prior to January 1, 2018This 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 vapor recovery compressors at this facility 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 10.3. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

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

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

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

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

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

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO_2 (by volume) and 0.3 gr/scf (at 12% CO_2) respectively. It is unlikely that gas fired engines will exceed these standards.

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

Rule 311 - Sulfur Content of Fuels: This rule limits the sulfur content of fuels combusted on the Newlove 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 be in compliance with the fuel limit as determined by required fuel analysis documentation.

Rule 317 - Organic Solvents: This rule sets specific prohibitions against the discharge of emissions of both photochemically and non-photochemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). Solvents may be used on the lease during normal operations for degreasing by wipe cleaning and for use in paints and coatings in maintenance operations. There

is the potential to exceed the limits under Section B.2 during significant surface coating activities. The permittee will be required to maintain records to ensure compliance with this rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

Rule 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 Newlove Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

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

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

c. Is not the result of improper maintenance;

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

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

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

3.5 Compliance History

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

3.5.1 Facility Inspections. Routine facility inspections were conducted on June 21, 2018, June 4, 2019, May 27, 2020 and January 12, 2021 since issuance of the previous permit renewal. The reports for these inspections were reviewed as part of the current permit renewal process. An enforcement action was issued during the June 4, 2019 inspection. Details of this enforcement action are provided below.

3.5.2 Violations: The following enforcement action was issued to this facility since issuance of the previous permit renewal. Compliance has been achieved for this violation.

NOV NO.	Date Issued	Description
#11600	06/05/2019	Failing to operate a leak free VRU/Failure to control emissions from an open-ended line.

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

Table 3.1 - Generic Federally-Enforceable District Rules

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

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

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

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

Table 3.3 - Non-Federally-Enforceable District Rules

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

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

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

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

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

4.0 Engineering Analysis

4.1 General

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

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

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

4.2 Stationary Combustion Sources

4.2.1 General: There are no combustion sources associated with the non-thermal operations on the Newlove Lease. All IC engines that power individual well pumps are permitted under PTO 8036-R11.

4.3 Fugitive Hydrocarbon Sources

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

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

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

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

4.4 Tanks/Vessels/Sumps/Separators

4.4.1 Oil-Water Separation and Crude Oil Storage Tanks: The Newlove Lease non-thermal operations utilize three 3,000 bbl wash tanks for oil-water separation, and one 1,000 bbl crude storage tank. All are vertical, cone roof tanks. The wash tanks measure 29.7 feet diameter by 24 feet high. The 1000 bbl crude tank measures 21.5 feet diameter by 16 feet high. All four tanks are connected to vapor recovery.

4.4.2 Pits, Sumps and Well Cellars: The Newlove Lease is equipped with twenty-nine well cellars, six wastewater pits, two truck wash pits and two sand bins. An out of service 1,600 bbl emergency overflow tank is located at Newlove East. The emergency overflow tank measures 21.5 feet in diameter by 24 feet high and is not equipped with vapor recovery. Well cellar emissions are reduced 70-percent for maintaining the cellars per the requirements of Rule 344. Fugitive emissions from all other pits and sumps are uncontrolled. These emission estimates are based District P&P 6100.060 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*). The calculation is:

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

where:

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

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

4.4.3 Waste Water Tanks: A 10,000 bbl capacity wastewater tank measures 55 feet in diameter and 24 feet high and a 1,000 bbl capacity wastewater tank that measures 21.5 feet in diameter and 16 feet high serve the non-thermal side of the facility. The tanks are connected to vapor recovery. Emissions from the tank is calculated using the same methodology as pits and sumps, and is based on District's P&P 6100.060 (*Calculation of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for the Revised ROC Definition*). Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for the tanks.

4.5 Other Emission Sources

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

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

4.5.3 Abrasive Blasting: Abrasive blasting with CARB certified sands may be performed as a preparation step prior to surface coating. The engines used to power the compressor may be

electric or diesel fired. If diesel fired, permits will be required unless the engine is registered with CARB. Particulate matter is emitted during this process. A general emission factor of 0.01 pound PM per pound of abrasive is used (SCAQMD - Permit Processing Manual, 1989) to estimate emissions of PM, PM_{10}, and $PM_{2.5}$ when needed for compliance verifications. A PM, $PM/PM_{10}/PM_{2.5}$ ratio of 1.0 is assumed.

4.6 Vapor Recovery/Control Systems

The vapor recovery system collects ROC emissions from the tanks and the crude oil loading rack. The collected vapors are combined with gas from the gas gathering system and are piped to the Orcutt Hill Compressor Plant or to the Diatomite Project steam generators. Overall ROC control efficiency for the system is assumed to be 95 percent.

4.7 BACT/NSPS/NESHAP/MACT

BACT is not triggered for the non-thermal facility equipment. To date, this facility has not triggered 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: the volume of gas burned in the steam generators, 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. The non-thermal facility equipment does not require 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. For liquids with API gravity over 20, ASTM D323 applies for true vapor pressure (TVP) measurement. In this case, the TVP at the maximum expected temperature shall be calculated from the Reid vapor pressure in accordance with API Bulletin 2518, or equivalent Reid/true vapor pressure correlation. The calculated true vapor pressure is based on the maximum expected

operating temperature in the initial crude oil storage tank. TVP sampling methods for liquids with an API gravity under 20^{O} require specialized procedures per Rule 325.G.2.b. It is important that all sampling and analysis be traceable by chain of custody procedures.

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Total emissions of hazardous air pollutants (HAP) are computed for each emissions unit. The HAP emission factors and references are listed in Table 5.4-1. Potential HAP emissions from the facility, based on the worst-case operational scenario, are computed and listed in Table 5.4-2. The stationary source HAP emission totals are summarized in Table 5.4-3. HAP emissions have been included in the Part 70 permit solely for the purpose of any future MACT applicability determination. They do not constitute any emissions or operations limit.

5.0 Emissions

5.1 General

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

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

5.2 Permitted Emission Limits - Emission Units

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

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

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation

[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

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

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

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the Newlove Lease non-thermal operations. Table 5.3 shows the federal potential to emit from the Newlove Lease non-thermal operations. Table 5.4 slows the total permitted emissions for the entire Newlove Lease (non-thermal operations plus the Diatomite Project). This permit renewal reflects the increase in emissions due to the incorporation of PTO 15506. Additionally, Non-Diatomite fugitive hydrocarbon emissions in Table 5.1-1 were incorrectly reproduced in Table 5.4 of PTO 8240-R10. This correction has been made in this permit renewal.

5.4 Part 70: Hazardous Air Pollutant Emissions for the Facility

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

5.5 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to District Rule 202 include maintenance operations involving surface coating. In addition, *insignificant activities* such as maintenance operations using paints and coatings, contribute to the facility emissions. The family trap is considered exempt and the emissions appear in the de minimis table.

Table 5.1-1
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Operating Equipment Description

			Device Specifications				Usage Data		Maximum Operating Schedule				
Equipment Category	**Description**	**Dev No**	**Feed**	**TVP**	**Size**	**Units**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**
Tanks	Wash Tank	394720	O/W	3.200	3,000	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wash Tank	109949	O/W	2.420	3,000	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wash Tank	388303	O/W	2.420	3,000	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Crude Tank	002974	Oil	2.420	1,000	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wastewater Tank	110332	Water	2.420	1,000	bbls	--	--	1.0	1.0	24	2,190	8,760
	Wastewater Tank	107475	Water	2.420	10,000	bbls	--	--	1.0	1.0	24	2,190	8,760
				Service									
Pits and Sumps	Well Cellars	003041	O/W	Primary	1,044	ft^2	--	--	1.0	1.0	24	2,190	8,760
	Waste Water Pits	See Equip. List	O/W	Secondary	75	ft^2	--	--	1.0	1.0	24	2,190	8,760
	Spill Catch Pan	101177	O/W	Primary	5	ft^2	--	--	1.0	1.0	24	2,190	8,760
	Truck Washout Pit	113871	O/W	Tertiary	420	ft2	--	--	1.0	1.0	24	2,190	8,760
	Truck Washout Pit	113871	O/W	Tertiary	420	ft2	--	--	1.0	1.0	24	2,190	8,760
Loading Rack	Loading Rack	113485	Oil	--	--		--	--	1.0	1.0	24	2,190	8,760
Fugitive Components (a)	Valves, Connections, etc	002980	--	--	78	wells	--	--	1.0	1.0	24	2,190	8,760
	Pumps/Compressors/Wellheads	003042	--	--	78	wells	--	--	1.0	1.0	24	2,190	8,760
Fugitive Components (b)	Valves (gas)	112500	--	Gas	418	clps	--	--	1.0	1.0	24	2,190	8,760
	Flanges/Connections (gas)	112501	--	Gas	2,775	clps	--	--	1.0	1.0	24	2,190	8,760
	Pressure Safety Valves (gas)	113146	--	Gas	1	clps	--	--	1.0	1.0	24	2,190	8,760
	Valves (oil)	112812	--	Oil	389	clps	--	--	1.0	1.0	24	2,190	8,760
	Flanges/Connections (oil)	112813	--	Oil	2,293	clps	--	--	1.0	1.0	24	2,190	8,760
	Pump Seals (oil)	112814	--	Oil	44	clps	--	--	1.0	1.0	24	2,190	8,760
	Fugitve Components (PTO 14019)	386204	--	Gas	69	clps	--	--	1.0	1.0	24	2,190	8,760
	Fugitve Components (PTO 15506)	394721	--	Gas/Oil	57	clps	--	--	1.0	1.0	24	2,190	8,761

Notes:

(a) CARB-KVB Method

(b) Component Leak Path Method

Table 5.1-2
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
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	394720	See attached worksheets for emission factors.						
	Wash Tank	109949							
	Wash Tank	388303							
	Crude Tank	002974							
	Wastewater Tank	110332	--	0.0006	--	--	--	--	lb/ft^2-day
	Wastewater Tank	107475	--	0.0006	--	--	--	--	lb/ft^2-day
Pits and Sumps	Well Cellars	003041	--	0.0282	--	--	--	--	lb/ft^2-day
	Pits	See Equip. List	--	0.0126	--	--	--	--	lb/ft^2-day
	Spill Catch Pan	101177	--	0.0941	--	--	--	--	lb/ft^2-day
	Truck Washout Pit	113871	--	0.0058	--	--	--	--	lb/ft^2-day
	Truck Washout Pit	113871	--	0.0058	--	--	--	--	lb/ft^2-day
Fugitive Components	Valves, Connections, etc	002980	--	--	--	--	--	--	--
	Pumps/Compressors/Wellheads	003042	--	--	--	--	--	--	--
Fugitive Components (b)	Valves	112500	--	0.0183	--	--	--	--	lbs/clp/day
	Flanges/Connections	112501	--	0.0043	--	--	--	--	lbs/clp/day
	Pressure Safety Valves	113146	--	0.4135	--	--	--	--	lbs/clp/day
	Valves	112812	--	0.0005	--	--	--	--	lbs/clp/day
	Flanges/Connections	112813	--	0.0002	--	--	--	--	lbs/clp/day
	Pump Seals	112814	--	0.0004	--	--	--	--	lbs/clp/day
	Fugitive Components (ATC 14019)	386204	See attached worksheet F for emission factors					--	lbs/clp/day
	Fugitive Components (ATC 15506)	394721	See attached worksheet E for emission factors					--	lbs/clp/day

Table 5.1-3
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Hourly and Daily Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		Enforceability
Equipment Category	**Description**	**Dev No**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**Type**
Tanks	Wash Tank	394720	--	--	0.00	0.04	--	--	--	--	--	--	--	--	FE
	Wash Tank	109949	--	--	0.00	0.04	--	--	--	--	--	--	--	--	FE
	Wash Tank	388303	--	--	0.00	0.04	--	--	--	--	--	--	--	--	FE
	Crude Tank	002974	--	--	0.05	1.12	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	110332	--	--	0.01	0.23	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	107475	--	--	0.06	1.50	--	--	--	--	--	--	--	--	FE
Pits and Sumps	Well Cellars	003041	--	--	1.23	29.47	--	--	--	--	--	--	--	--	A
	Pits	See Equip. List	--	--	0.04	0.94	--	--	--	--	--	--	--	--	A
	Spill Catch Pan	101177	--	--	0.02	0.50	--	--	--	--	--	--	--	--	
	Truck Washout Pit	113871			0.10	2.44	--	--	--	--	--	--	--	--	
	Truck Washout Pit	113871			0.10	2.44	--	--	--	--	--	--	--	--	
Fugitive Components	Valves, Connections, etc	002980	--	--	2.74	65.65	--	--	--	--	--	--	--	--	A
	Pumps/Compressors/Wellheads	003042	--	--	0.05	1.27	--	--	--	--	--	--	--	--	A
Fugitive Components	Valves	112500	--	--	0.32	7.65	--	--	--	--	--	--	--	--	FE
	Flanges/Connections	112501	--	--	0.50	12.04	--	--	--	--	--	--	--	--	FE
	Pressure Safety Valves	113146	--	--	0.02	0.41	--	--	--	--	--	--	--	--	FE
	Valves	112812	--	--	0.01	0.18	--	--	--	--	--	--	--	--	FE
	Flanges/Connections	112813	--	--	0.02	0.51	--	--	--	--	--	--	--	--	FE
	Pump Seals	112814	--	--	0.00	0.02	--	--	--	--	--	--	--	--	FE
	Fugitive Components (ATC 14019)	386204	--	--	0.02	0.50	--	--	--	--	--	--	--	--	FE
	Fugitive Components (ATC 15506)	394721	--	--	0.03	0.61	--	--	--	--	--	--	--	--	FE

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

Table 5.1-4
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Quarterly and Annual Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		Enforceability
Equipment Category	**Description**	**Dev No**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**Type**
Tanks	Wash Tank	394720	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE
	Wash Tank	109949	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE
	Wash Tank	388303	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE
	Crude Tank	002974	--	--	0.05	0.20	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	110332	--	--	0.01	0.04	--	--	--	--	--	--	--	--	FE
	Wastewater Tank	107475	--	--	0.07	0.27	--	--	--	--	--	--	--	--	FE
Pits and Sumps	Well Cellars	003041	--	--	1.34	5.38	--	--	--	--	--	--	--	--	A
	Pits	See Equip. List	--	--	0.04	0.17	--	--	--	--	--	--	--	--	A
	Spill Catch Pan	101177	--	--	0.02	0.09	--	--	--	--	--	--	--	--	A
	Truck Washout Pit	113871	--	--	0.11	0.44	--	--	--	--	--	--	--	--	A
	Truck Washout Pit	113871	--	--	0.11	0.44	--	--	--	--	--	--	--	--	A
Fugitive Components	Valves, Connections, etc	002980	--	--	3.00	11.98	--	--	--	--	--	--	--	--	A
	Pumps/Compressors/Wellheads	003042	--	--	0.06	0.23	--	--	--	--	--	--	--	--	A
Fugitive Components	Valves	112500	--	--	0.35	1.40	--	--	--	--	--	--	--	--	FE
	Flanges/Connections	112501	--	--	0.55	2.20	--	--	--	--	--	--	--	--	FE
	Pressure Safety Valves	113146	--	--	0.02	0.08	--	--	--	--	--	--	--	--	FE
	Valves	112812	--	--	0.01	0.03	--	--	--	--	--	--	--	--	FE
	Flanges/Connections	112813	--	--	0.02	0.09	--	--	--	--	--	--	--	--	FE
	Pump Seals	112814	--	--	0.00	0.00	--	--	--	--	--	--	--	--	FE
	Fugitive Components (ATC 14019)	386204	--	--	0.02	0.09	--	--	--	--	--	--	--	--	FE
	Fugitive Components (ATC 15506)	394721	--	--	0.03	0.11	--	--	--	--	--	--	--	--	FE

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

Table 5.2
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Newlove Lease Non-Diatomite Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Non-Diatomite						
Tanks	--	0.12	--	--	--	--
Pits and Sumps	--	1.49	--	--	--	--
Fugitive Components	--	3.71	--	--	--	--
	0.00	**5.32**	**0.00**	**0.00**	**0.00**	**0.00**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Non-Diatomite						
Tanks	--	2.97	--	--	--	--
Pits and Sumps	--	35.79	--	--	--	--
Fugitive Components	--	88.84	--	--	--	--
	0.00	**127.61**	**0.00**	**0.00**	**0.00**	**0.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Non-Diatomite						
Tanks	--	0.14	--	--	--	--
Pits and Sumps	--	1.63	--	--	--	--
Fugitive Components	--	4.06	--	--	--	--
	0.00	**5.82**	**0.00**	**0.00**	**0.00**	**0.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Non-Diatomite						
Tanks	--	0.54	--	--	--	--
Pits and Sumps	--	6.52	--	--	--	--
Fugitive Components	--	16.21	--	--	--	--
	0.00	**23.28**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.3
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Federal Potential To Emit

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Tanks	--	0.12	--	--	--	--
Pits and Sumps	--	1.49	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**1.62**	**0.00**	**0.00**	**0.00**	**0.00**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Tanks	--	2.97	--	--	--	--
Pits and Sumps	--	35.79	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**38.77**	**0.00**	**0.00**	**0.00**	**0.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Tanks	--	0.14	--	--	--	--
Pits and Sumps	--	1.63	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**1.78**	**0.00**	**0.00**	**0.00**	**0.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$
Tanks	--	0.54	--	--	--	--
Pits and Sumps	--	6.52	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**7.07**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.4
Pacific Coast Newlove Lease (Diatomite + non-thermal): Permit to Operate 8240-R11
Total Newlove Lease Facility Potential To Emit

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks		0.12	--	--	--	--	--
Pits and Sumps		1.49	--	--	--	--	--
Exempt Surface Coating		0.01	--	--	--	--	--
Fugitive Hydrocarbons		3.71	--	--	--	--	--
Diatomite							
Stream Generator	1.91	0.74	3.56	0.69	1.13	1.13	21,937.50
Tanks	--	0.05	--	--	--	--	--
Fugitive Components	--	1.52	--	--	--	--	--
	1.91	**7.64**	**3.56**	**0.69**	**1.13**	**1.13**	**21937.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	2.97	--	--	--	--	--
Pits and Sumps	--	35.79	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	88.84	--	--	--	--	--
Diatomite							
Stream Generator	45.81	17.78	85.50	16.66	27.00	27.00	526,500.00
Tanks	--	1.32	--	--	--	--	--
Fugitive Components	--	36.53	--	--	--	--	--
	45.81	**183.25**	**85.50**	**16.66**	**27.00**	**27.00**	**526,500.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	0.14	--	--	--	--	--
Pits and Sumps	--	1.63	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	4.06	--	--	--	--	--
Diatomite							
Stream Generator	2.09	0.81	3.90	0.76	1.23	1.23	24,021.56
Tanks	--	0.08	--	--	--	--	--
Fugitive Components	--	1.46	--	--	--	--	--
	2.09	**8.18**	**3.90**	**0.76**	**1.23**	**1.23**	**24,021.56**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	0.54	--	--	--	--	--
Pits and Sumps	--	6.52	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	16.21	--	--	--	--	--
Diatomite							
Stream Generator	8.36	3.24	15.60	3.04	4.93	4.93	96,086.25
Tanks	--	0.34	--	--	--	--	--
Fugitive Components	--	4.30	--	--	--	--	--
	8.36	**31.17**	**15.60**	**3.04**	**4.93**	**4.93**	**96,086.25**

Table 5.5-1
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Equipment Hazardous Air Pollutant Factors

			Emission Factors					
Equipment Category	**Description**	**Dev No**	**Hexane**	**Benzene**	**Toluene**	**Xylene**	**Iso-Octane**	**Units**
Tanks	Wash Tank[1]	394720	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Wash Tank[1]	109949	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Wash Tank[1]	388303	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Crude Tank	002974	0.0531	0.0271	0.0158	--	0.0045	lb/lb-ROC
	Wastewater Tank[2]	110332	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Wastewater Tank[2]	107475	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
Pits and Sumps[2]	Well Cellars	003041	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Pits	See Equip. List	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Spill Catch Pan	101177	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Truck Washout Pit	113871	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
	Truck Washout Pit	113871	0.0528	0.0264	0.0165	--	0.0050	lb/lb-ROC
Loading Rack[3]	Loading Rack	113485	0.1119	0.0011	--	--	0.1554	lb/lb-ROC
Fugitive Components	Valves, Connections, etc[4]	002980	0.2532	0.0026	--	--	0.1494	lb/lb-ROC
	Pumps/Compressors/Wellheads[5]	003042	0.3779	0.0038	--	--	0.1554	lb/lb-ROC
Fugitive Components[6]	Valves	112500	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
	Flanges/Connections	112501	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
	Pressure Safety Valves	113146	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
	Valves	112812	0.1677	0.0032	--	--	0.1554	lb/lb-ROC
	Flanges/Connections	112813	0.1677	0.0032	--	--	0.1554	lb/lb-ROC
	Pump Seals	112814	0.1677	0.0032	--	--	0.1554	lb/lb-ROC
	Fugitve Components (PTO 14019)	386204	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
	Fugitve Components (PTO 15506)	394721	0.1677	0.0032	--	--	0.1494	lb/lb-ROC
Exempt Solvent Usage[7]	Cleaning/degreasing (estd.)		--	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] 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.

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

Table 5.5-2
Pacific Coast Newlove Lease (non-thermal): Permit to Operate 8240-R11
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Hexane ton/year	Benzene ton/year	Toluene ton/year	Xylene ton/year	Iso-Octane ton/year
Tanks	Wash Tank	394720	3.88E-04	1.98E-04	1.15E-04	--	3.30E-05
	Wash Tank	109949	3.88E-04	1.98E-04	1.15E-04	--	3.30E-05
	Wash Tank	388303	3.88E-04	1.98E-04	1.15E-04	--	3.30E-05
	Crude Tank	002974	1.09E-02	5.54E-03	3.23E-03	--	9.24E-04
	Wastewater Tank	110332	2.22E-03	1.11E-03	6.93E-04	--	2.08E-04
	Wastewater Tank	107475	1.45E-02	7.23E-03	4.52E-03	--	1.36E-03
Pits and Sumps	Well Cellars	003041	2.84E-01	1.42E-01	8.88E-02	--	2.66E-02
	Pits	See Equip. List	9.06E-03	4.53E-03	2.83E-03	--	8.49E-04
	Spill Catch Pan	101177	4.84E-03	2.42E-03	1.51E-03	--	4.53E-04
	Truck Washout Pit	113871	2.32E-02	1.16E-02	7.26E-03	--	2.18E-03
	Truck Washout Pit	113871	2.32E-02	1.16E-02	7.26E-03	--	2.18E-03
Loading Rack	Loading Rack	113485	1.90E-02	1.92E-04	--	--	1.67E-02
Fugitive Components (a)	Valves, Connections, etc	002980	2.02E+00	3.89E-02	--	--	1.79E+00
	Pumps/Compressors/Wellheads	003042	4.10E-02	4.14E-04	--	--	3.60E-02
Fugitive Components (b)	Valves	112500	2.27E-01	4.37E-03	--	--	2.01E-01
	Flanges/Connections	112501	3.64E-01	7.01E-03	--	--	3.22E-01
	Pressure Safety Valves	113146	1.27E-02	2.45E-04	--	--	1.13E-02
	Valves	112812	5.76E-03	5.82E-05	--	--	5.06E-03
	Flanges/Connections	112813	1.66E-02	1.67E-04	--	--	1.46E-02
	Pump Seals	112814	6.20E-04	6.26E-06	--	--	5.45E-04
	Fugitve Components (PTO 14019)	386204	1.54E-02	2.96E-04	--	--	1.36E-02
	Fugitve Components (PTO 15506)	394721	1.14E-02	1.76E-04	--	--	1.36E-02
Exempt Solvent Usage	Cleaning/degreasing (estd.)		--	5.00E-04	5.00E-04	5.00E-04	--
		Total HAPs (TPY):	**3.11**	**0.24**	**0.12**	**5.00E-04**	**2.46**

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.

Pacific Coast Energy Company, Orcutt Hill
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Individual HAPs	Total - All HAPs
4214 - Orcutt Hill IC Engines	PTO 8610-R9	[illegible]	8.905
4104 - Orcutt Hill Compressor Plant	PTO 8114 - R7	[illegible]	0.532
3206 - Cal Coast Lease (Orcutt Hill)	PTO 8240-R10	[illegible]	14.120
10402 - Orcutt Hill - Steam Generators	PTO 11405-R3	[illegible]	6.143
3322 - Pinal Lease	PTO 8592-R8	[illegible]	1.870
3324 - Squires Lease	PTO 8225-R9	[illegible]	1.291
3319 - Hartnell Lease	PTO 9629-R7	[illegible]	0.884
3323 - Rice Ranch Lease (Orcutt Hill)	PTO 9635-R7	[illegible]	0.081
3316 - Folsom Lease	PTO 9626-R7	[illegible]	0.640
3320 - Hobbs Lease	PTO 9627-R7	[illegible]	0.587
3314 - Doree Lease	PTO 9008-R7	[illegible]	0.564
3495 - Getty Hobbs Lease (Orcutt Hill)	PTO 9633-R7	[illegible]	0.081
3313 - Fox Lease	PTO 8514-R8	[illegible]	0.317
3318 - Graciosa Lease	PTO 9628-R7	[illegible]	0.297
5504 - Orcutt Hill Field (MVFF)	PTO 11666-R3	[illegible]	0.005
3321 - Newlove Lease	PTO 8249-R9	[illegible]	0.969
Total Stationary Source - By Pollutant		[illegible]	33.80

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 Company - 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 about 5 per million at the property boundary was estimated for the 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 current status of electrification of injection pump engines and engine locations. The results of this HRA are provided below:

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

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.

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

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

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

Notes:

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

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

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

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

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

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

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

Notes:

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

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

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

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

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

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

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

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

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

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

Table 7.3-3
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.

7.4 Emission Reduction Credits

The Newlove Lease provides 30.86 tons of ROC per quarter and 1.33 tons of NAROC per quarter emission reduction credits to the Freeport McMoran Point Pedernales Project. This facility was included in the emission reduction agreement between Unocal and the District dated August 11, 1986. The ROC credits come from the control of emissions from the three wash tanks and the crude storage tank. The tank emissions include flashing losses from the first wash tank the produced fluid enters. A memo dated April 26, 1988 to the PTO 6708 file 7.2.56 written by Al Ronyecz, the project manager at the time, documents the flashing loss calculations. These credits are verified through annual process parameter monitoring. A complete description of the emission mitigations required for the Point Pedernales Project is in Permit to Operate 6708 for the Lompoc Oil and Gas Plant.

8.0 Lead Agency Permit Consistency

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

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9.0 Permit Conditions

This section lists the applicable permit conditions for the Newlove 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 Newlove 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 any compliance plan required under any federally-enforceable rules or standards.

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

A.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 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 which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been

extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

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

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

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

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

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

A.13 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

A.14 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

A.15 **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.

9.B. Generic Conditions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

9.C Requirements and Equipment Specific Conditions

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

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

District No.	Equipment
CARB/KVB Components	
002980	Valves, Connections, etc.
003042	Pumps/Compressors/Wellheads
Component Leak Path Components	
112812	Valves - Oil Service
112813	Flanges/Connections - Oil Service
112814	Pump Seals - Oil Service
112500	Valves – Gas Service
112501	Flanges/Connections – Gas Service
113146	Pressure Safety Valves – Gas Service
386204	Valves/Flanges - Gas Service
394721	Valves/Flanges - Oil and Gas 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) *I&M Program:* The District-approved I&M Plan shall be implemented for the life of the project. The Plan, and any subsequent District approved revisions, is incorporated by reference as an enforceable part of this permit. An updated Fugitive Emissions Inspection and Maintenance Plan must be submitted to the District for review and approval within one calendar quarter whenever there is a change in the component list or diagrams.

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

(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
394720	Wash Tank, 3,000 bbl capacity
109949	Wash Tank, 3,000 bbl capacity
388303	Wash Tank, 3,000 bbl capacity
002974	Crude Storage Tank, 1,000 bbl capacity

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

(b) Operational Limits:

(i) *Facility Throughput Limitations*. The Newlove Lease production shall be limited to a monthly average of 3,000 barrels of (dry) oil per day. The permittee shall record in a log the volumes of oil produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month.

(ii) *Emission Reduction Credits: Real, Surplus, Quantifiable and Enforceable:* The emission reductions created by the control of four tanks (Dev. Nos 002974, 394720, 109949, and 388303) are for use as offsets for the Point Pedernales Project to meet the requirements under PTO 6708. Emission reduction measures (i.e., vapor recovery with a control efficiency maintained at 95% or greater) implemented to create the required emission reductions shall be in place and maintained for the life of the Project.

To assure that offsets are real, quantifiable, surplus and enforceable, the permittee shall not utilize a shift in load from the controlled tanks subject to this permit to other uncontrolled point sources at the stationary source as a means of generating additional emission reduction credits (ERCs). For the purposes of this condition, shift in load is defined as a redirecting of produced fluids from a controlled source to an uncontrolled source for the sole purpose of increasing the uncontrolled source baseline throughput resulting in the generation of false surplus ERC's. If such shift in load does occur, the increased emissions at the uncontrolled point source shall not be considered in any baseline calculation for possible ERC for that uncontrolled point source and the ERCs provided by this permit to the Point Pedernales project shall become invalid.

(iii) Pursuant to Rule 343, Sections D, E, F and G, the permittee shall use a control device, approved in advance by the District, when degassing or purging any stationary tanks, vessels, or containers which process odorous sulfur compounds. Except for emergency cases, the Control Officer shall be notified in writing at least

two weeks prior to the start of the emptying operation for the purpose of degassing any above-ground tank subject to this rule.

(b) Monitoring:

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

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

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

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

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

The volume of oil produced each month and the number of days that oil was produced through the tank battery. On an annual basis, the API gravity and true vapor pressure, calculated at the maximum expected storage temperature of the crude oil in each storage tank shall be recorded according to the test methods described in Rule 325.G. The temperature shall also be recorded at the time of API gravity and vapor pressure tests.

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

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

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

Dev No	Equipment Name; Capacity, Size
110332	Wastewater Tank, 1,000 bbl capacity
101173	Wastewater Pit
101174	Wastewater Pit
101175	Wastewater Pit
101177	Spill Catch Pan
101178	Wastewater Pit
101184	Wastewater Pit
101185	Wastewater Pit
113871	Truck Washout Pit #1
113872	Truck Washout Pit #2

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

(b) Operational Limits: The following operational limits shall apply:

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

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

(iii) Truck Washout Pits:

a. Each washout pit shall be equipped with a wooden wall located no further than 35 feet from weir that separates the pit from the liquid area. The wall shall be in place at all times when liquids are discharged to or stored in the pit.

b. All discharge and storage of vacuum truck contents is limited to the area between the weir and the wooden wall. The wall can be removed for access by a front end loader or other maintenance activities.

(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.

(ii) Truck Washout Pits:

a. The liquid area of each pit shall be monitored and drained as necessary.

b. The pit shall be monitored to ensure that contents are not deposited upstream of the wooden wall. The liquid area of each pit shall be visually inspected drained as necessary such that contents are not deposited upstream of the wooden wall.

(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.4.(c)(i) above.

(ii) Emissions from the washout pits, based on the surface area of the pits and the tertiary pits and sumps emission factor.

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

C.4 **Well Cellars.** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
003041	Well Cellars (29)

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

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

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

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

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

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

b. oil/petroleum depth exceeding 2 inches.

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

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

(d) Recordkeeping: The following information relating to detection of conditions requiring pumping of a well cellar as required in 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.5 **Loading Rack.** The following shall apply to the operation of the loading rack:

(a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed 4.87 lbs/day ROC and 0.10 tpy ROC. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

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

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

Truck Loading of Oil	160	bbl/hour
Truck Loading of Oil	1,000	bbl/day
Truck Loading of Oil	39,000	bbl/quarter
Truck Loading of Oil	39,000	bbl/year

(ii) *Oil Loading Rack Operation.* The loading rack used to ship oil from the facility shall use bottom-loading and a vapor recovery system that prevents the vapors displaced during loading from being released into the atmosphere. 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 Control Officer, that is at least as effective in preventing overfill spillage as

the system described immediately above. District written approval must be obtained prior to implementing this option.

c. *Source Limitation.* Oil from the Diatomite Project shall not be shipped through the loading rack included in this permit unless the land use permit for the Diatomite Project is modified to allow trucking of produced oil.

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

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

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

C.6 **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 **Requirements for Produced Gas.** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

C.8 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

(a) Rule 331 fugitive hydrocarbon I&M program data:
- inspection summary.
- record of leaking components.
- record of leaks from critical components.
- record of leaks from components that incur five repair actions within a continuous 12-month period.
- record of component repair actions including dates of component re-inspections.

(b) *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) The volume of oil produced each month and year, and the number of days each month that oil was produced through the tank battery.

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

(e) On an annual basis, a log showing the amount of all coatings and solvents used. Reporting may be included in the annual stationary source coating and solvents report as required by this permit.

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

(g) Fugitive ROC emissions (tons) by quarter.

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

C.9 **Documents Incorporated by Reference.** The documents listed below and any District approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this permit. The documents shall be implemented for the life of the Diatomite Project and shall be made available to District inspection staff upon request.

Enhanced Fugitive Hydrocarbon Inspection and Maintenance Plan (District approved July 2005)

Fuel Use Monitoring Plan (District approved July 2011)

C.10 **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.

9.D District-Only Conditions

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the District and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of District Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

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

D.2 **Facility Throughput Limitations.** Total Newlove Lease production (non-thermal plus Diatomite) shall be limited to a monthly average of 3,000 barrels of (dry) oil per day. The permittee shall record in a log the volumes of oil produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month.

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

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

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

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

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

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

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

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

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

D.7 **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.8 **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.9 **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 8240-R10, PTO 15506

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

10.0 Attachments

10.1 Emission Calculation Documentation
10.2 Emission Calculation Spreadsheets
10.3 Equipment List
10.4 Well List

10.1 EMISSION CALCULATION DOCUMENTATION – NEWLOVE LEASE

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

Reference A - Petroleum Storage Tanks

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

Reference B - Pits, Sumps and Wastewater Tank

→ The maximum operating schedule is in units of hours;

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

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

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

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

Reference C - Pipeline Components Emitting Fugitive ROCs

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

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

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

Reference E - Solvents

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

→ Daily and annual emission rates assumed to be minimal (0.01 lb/day, 0.01 TPY)

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 =	3.2
if TVP is entered, enter TVP temperature (°F) =	120
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
Permit: PTO 8240-R11
Date: 03/24/21
Tank: Wash Tank (3)
Name: Newlove Lease
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: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) =		3,000
Ann thruput (gal): (enter value in Column A if not max PTE)		4.599E+07
RVP (psia):		2.1455
°API gravity =		25

Computed Values		
roof outage [1] (feet):		0.3
vapor space volume [2] (cubic feet):		901
turnovers [3]:		365
turnover factor [4]:		0.25
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):		0.576496
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		1.07212
vapor density [14] (lb/cubic foot):		0.009475
vapor expansion factor [15]:		0.127
vapor saturation factor [16]:		0.931212
vented vapor volume (scf/bbl):		8
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Paint Factor Matrix	paint condition	
paint color	good	poor
spec alum	0.39	0.49
dlf 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	1.07212
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	2.1455
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] =	0.04	0.89	0.16	0.00	0.04	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**	**0.89**	**0.16**	**0.00**	**0.04**	**0.01**

FIXED ROOF TANK EMISSION CALCULATIONS (Ver. 4.0)

Attachment: A2
Wash Tank DID 394720
Original Permit Nun ATC 15506
Facility: Newlove Lease

Basic Input Data

Information	*Value*	*Reference*
Liquid Type	Crude Oil	Permit Application
Liquid TVP	3.2	Permit Application
If TVP is entered, enter TVP temperature (°F)	120	Permit Application
Is the tank heated (Yes or No)?	No	Permit Application
If tank is heated, enter temperature (°F)	N/A	Permit Application
Is tanked to a VRS (Yes or No)?	Yes	Permit Application
Is this a wash tank (Yes or No)?	Yes	Permit Application
Will flashing losses occur (Yes or No)?	No	Permit Application
Breather vent pressure setting range (psi)	0.06	Permit Application (default of 0.06 psi)

Tank Data

Information	*Value*	*Reference*
Diameter (feet)	29.7	Permit Application
Capacity (barrels)	3,000	Permit Application
Capacity (gallons)	126,000	Calculated Value
Roof Type (Enter C if Conical, or D if Dome Roof)	c	Permit Application
Shell Height (feet)	24	Permit Application
Roof Height	1	Permit Application (default of 1 foot)
Average Liquid Height (feet)	23	Calculated Value
Tank Paint Color	Medium Gray	Permit Application
Condition (Enter 1 if Good, or 2 if Poor)	1	Permit Application (default of 0.06 psi)
Upstream pressure (psi)	0.06	Permit Application (0 psi when no flashing loses occur)

Liquid Data

Information	*Value*	*Reference*
Maximum Daily Throughput (barrels per day)	3000	Permit Application
Maximum Annual Throughput (gallons)	4.599E+07	Calculated Value
RVP (psi)	2.1455	RVP Matrix
API Gravity (°)	25.4	Permit Application

Vapor Recovery System Data

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

Tank ROC Potential to Emit

	Uncontrolled Potential to Emit		***Controlled Potential to Emit***	
	lb/day	**TPY**	**lb/day**	**TPY**
Breathing Losses	0.89	0.16	0.04	0.01
Working Losses	0.00	0.00	0.00	0.00
Flashing Losses	0.00	0.00	0.00	0.00
Total	**0.89**	**0.16**	**0.04**	**0.01**

Processed By: KMB Date: 13-Jul-20

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 =	3.2
If TVP is entered, enter TVP temperature (°F) =	120
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

Attachment:	B
Permit:	PTO 8240-R11
Date:	'03/24/21
Tank:	Crude Tank
Name:	Newlove Lease
Filename:	
District:	Santa Barbara
Version:	Tank-2b.xls

PRINT

Tank Data		
diameter (feet) =		21.5
capacity (enter barrels in first col, gals will compute) =	1,000	42,000
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) =		3,000
Ann thruput (gal): (enter value in Column A if not max PTE)		4.599E+07
RVP (psia):		2.1455
°API gravity =		25

Computed Values		
roof outage [1] (feet):		0.3
vapor space volume [2] (cubic feet):		3,013
turnovers [3]:		1095
turnover factor [4]:		0.19
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):		0.576496
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		1.07212
vapor density [14] (lb/cubic foot):		0.009475
vapor expansion factor [15]:		0.127
vapor saturation factor [16]:		0.679521
vented vapor volume (scf/bbl):		8
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Paint Factor Matrix		
	paint condition	
paint color	good	poor
spec alum	0.39	0.49
dif alum	0.60	0.66
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	1.07212
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	2.1455
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] =	0.09	2.18	0.40	0.00	0.11	0.02
working loss [18] =	0.85	20.28	3.70	0.04	1.01	0.19
flashing loss [19] =	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS =	0.94	22.46	4.10	0.05	1.12	0.20

FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

ADMINISTRATIVE INFORMATION
Attachment: C
Company: Pacific Coast Energy Co.
Facility: Newlove Lease
Processed by: JJM
March 24, 2021
Path & File Name:

Version: fhc-kvb5.xls
Date: 24-Oct-00

Reference: CARB speciation profiles #s 529, 530, 531, 532

Data	Value	Units
Number of Active Wells at Facility	78	wells
Facility Gas Production		scf/day
Facility Dry Oil Production		bbls/day
Facility Gas to Oil Ratio (if > 500 then default to 501)	501	scf/bbl
API Gravity	25	degrees API
Facility Model Number	6	dimensionless
No. of Steam Drive Wells with Control Vents	0	wells
No. of Steam Drive Wells with Uncontrol Vents	0	wells
No. of Cyclic Steam Drive Wells with Control Vents	0	wells
No. of Cyclic Steam Drive Wells with Uncontrol Vents	0	wells
Composite Valve and Fitting Emission Factor	4.2085	lb/day-well

Lease Model	Valve ROG Emission Factor Without Ethane	Fitting ROG Emission Factor Without Ethane	Composite ROG Emission Factor Without Ethane	
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.

ROC Emission Calculation Summary Results Table

Reactive Organic Compounds[c]

	lbs/hr	lbs/day	tons/year
Valves and Fittings[a]	2.74	65.65	11.98
Sumps, Wastewater Tanks and Well Cellars[b]	1.50	36.02	6.57
Oil/Water Separators [b]	0.00	0.00	0.00
Pumps/Compressors/Well Heads[a]	0.05	1.27	0.23
Enhanced Oil Recovery Fields	0.00	0.00	0.00
Total Facility FHC Emissions (ROC)	**4.29**	**102.95**	**18.79**

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

Emission Calculation by Emission Unit

Pumps, Compressors, and Well Heads Uncontrolled Emission Calculations

Number of Wells	78	wells
Wellhead emissions	0.7566	ROC (lb/well-day)
FHC from Pumps	0.3042	ROC (lb/well-day)
FHC from Compressors	5.2962	ROC (lb/well-day)
Total	6.3570	ROC (lb/well-day)

Sumps, Uncovered Wastewater Tanks, and Well Cellars

Efficiency Factor: (70% for well cellars, 0% for uncovered WW tanks, sumps and pits)

Unit Type/Emissions Factor

	Heavy Oil Service	Light Oil Service	
Primary	0.0941	0.138	(lb ROC/ft^2-day)
Secondary	0.0126	0.018	(lb ROC/ft^2-day)
Tertiary	0.0058	0.0087	(lb ROC/ft^2-day)

Surface Area and Type (emissions in lbs/day)

Description/Name	Number	Area (ft^2)	Primary	Secondary	Tertiary
Well Cellars[a]	29	1,044	29.47		
Spill Catch Pan	1	5.33	0.50		
Wastewater Pit	1	19.63		0.25	
Wastewater Pit	1	12.57		0.16	
Wastewater Pit	1	3.14		0.04	
Wastewater Pit	1	7.07		0.09	
Wastewater Pit	1	19.63		0.25	
Wastewater Pit	1	12.57		0.16	
Truck Washout Pit	1	420			2.44
Truck Washout Pit	1	420			2.44
			29.97	0.94	4.88

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

Covered Wastewater Tanks

Efficiency Factor: 85%

Surface Area and Type (emissions in lbs/day)

Description/Name	Number	Area (ft^2)	Primary	Secondary	Tertiary
			0.00		
				0.00	
					0.00
			0.00	0.00	0.00

Covered Wastewater Tanks Equipped with Vapor Recovery

Efficiency Factor: 95%

Surface Area and Type (emissions in lbs/day)

Description/Name	Number	Area (ft^2)	Primary	Secondary	Tertiary
			0.00		
				0.00	
Wastewater Tank	1	363.05		0.23	
					0.00
			0.00	0.23	0.00

Oil/Water Separators

Efficiency Factor: varies (85% for cover, 95% for VRS, 0% for open top)

Emissions Factor: 560 (lb ROC/MM Gal)

		Type (emissions in lbs/day)			Total
Description/Name	TP-MM Gal	Equipped with Cover	Equipped with VRS	Open Top	lb/day
		0.0			
			0.0		
				0.0	
		0.0	0.0	0.0	0.0

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: D
Company: Pacific Coast Energy
Facility: Newlove Lease
Processed by: JJM
Date: 05/11/20
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		ROC[2]		Uncontrolled		Controlled	Controlled	Controlled	Controlled
Refinery		Emission	ROC/THC	ROC	ROC	ROC	ROC	ROC	ROC
Offshore Platform		Factor	Ratio	Emission	Control	Emission	Emission	Emission	Emission
Component	Count[1]	(lbs/day-clp)		(lbs/day)	Eff	(lbs/hr)	(lbs/day)	(Tons/Qtr)	(Tons/year)
Gas Condensate Service									
Valves - Acc/Inacc	418	0.295	0.31	38.23	0.80	0.32	7.65	0.35	1.40
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	2,775	0.070	0.31	60.22	0.80	0.50	12.04	0.55	2.20
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor Seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	3,194			100.51		0.838	20.102	0.917	3.669
Oil Service									
Valves - Acc/Inacc	389	0.0041	0.56	0.89	0.80	0.01	0.18	0.01	0.03
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	2293	0.0020	0.56	2.57	0.80	0.02	0.51	0.02	0.09
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single	44	0.0039	0.56	0.10	0.80	0.00	0.02	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	2,726			3.557		0.03	0.71	0.03	0.13
Total	**5,920**			**104.07**		**0.867**	**20.814**	**0.950**	**3.799**

Notes:
1. Source
2. APCD P&P # 6100.060.1998
3. APCD P&P # 6100.061.1998
4. A 80% efficiency is assigned to fugitive components Rule 331 implementation.

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: E (PTO 15506)
Company: PCEC
Facility: Newlove Lease
Processed by: JJM
Date: 05/22/20
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		ROC[2] Emission Factor	ROC/THC Ratio	Uncontrolled ROC Emission	ROC Control Eff	Controlled ROC Emission	Controlled ROC Emission	Controlled ROC Emission	Controlled ROC Emission
Refinery									
Offshore Platform									
Component	Count[1]	(lbs/day-clp)		(lbs/day)		(lbs/hr)	(lbs/day)	(Tons/Qtr)	(Tons/year)
Gas Condensate Service									
Valves - Acc/Inacc	2	0.295	0.31	0.18	0.80	0.00	0.04	0.00	0.01
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	36	0.070	0.31	0.78	0.80	0.01	0.16	0.01	0.03
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor Seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	39			3.03		0.03	0.61	0.028	0.111
Oil Service									
Valves - Acc/Inacc	3	0.0041	0.56	0.01	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	15	0.0020	0.56	0.02	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	18			0.024		0.00	0.00	0.00	0.00
Total	**57**			**3.06**		**0.03**	**0.61**	**0.03**	**0.11**

Notes:
1. Source:
2. APCD P&P # 6100.060.1998
3. APCD P&P # 6100.061.1998
4. A 80% efficiency is assigned to fugitive components Rule 331 implementation

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: F (PTO 14019)
Company: PCEC
Facility: Newlove Lease
Processed by: JJM
Date: 05/22/20
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		ROC[2]		Uncontrolled		Controlled	Controlled	Controlled	Controlled
Refinery		Emission	ROC/THC	ROC	ROC	ROC	ROC	ROC	ROC
Offshore Platform		Factor	Ratio	Emission	Control	Emission	Emission	Emission	Emission
Component	Count[1]	(lbs/day-clp)		(lbs/day)	Eff	(lbs/hr)	(lbs/day)	(Tons/Qtr)	(Tons/year)
Gas Condensate Service									
Valves - Acc/Inacc	5	0.295	0.31	0.46	0.80	0.00	0.09	0.00	0.02
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	63	0.070	0.31	1.37	0.80	0.01	0.27	0.01	0.05
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	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		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor Seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		6.670	0.31	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	69			2.49		0.02	0.50	0.023	0.091
Oil Service									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	0			0.000		0.00	0.00	0.00	0.00
Total	**69**			**2.49**		**0.02**	**0.50**	**0.02**	**0.09**

Notes:
1. Source:
2. APCD P&P # 6100.060.1998
3. APCD P&P # 6100.061.1998
4. A 80% efficiency is assigned to fugitive components Rule 331 implementation

LOADING RACK EMISSION CALCULATION (ver 3.0)

Attachment:	G
Company:	Pacific Coast Energy
Facility:	Newlove Lease
File Name:	

Reference: Loading Rack

Rack Type: Enter X as 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			Reference
S = Saturation Factor	**0.60**	See AP-42 Table 4.4-1	2
M = Molecular Weight	**50**	Crude Oil: Default = 50 lb/lb-mole	3
P = True Vapor Pressure (psia)	**3.600**	See AP-42 Table 12.3-5	1
T = Liquid Temperature ^{0}R	**580**	120 ^{0}F + 460 = ^{0}R	5
R = Loading Rate (bbl/hr)	**160.00**	6,720 gallons (42 gallons = 1 bbl)	1
C = Storage Capacity (bbl)	**1,000**	42,000 gallons (42 gallons = 1 bbl)	1
D = Daily Production (bbl)	**1,300**	54,600 gallons (42 gallons = 1 bbl)	
A = Annual Production (bbl)	**39,000**	1,638,000 gallons (42 gallons = 1 bbl)	1
eff = Vapor Recovery Efficiency	**0.95**	Default = 0.95	1
ROC/THC = Reactivity	**0.885**	Crude Oil: Default = 0.885	

HLPD = hours loading per day = (C/R) if < 24 =	**6.25**	**hours/day**
HLPY = hours loading per year = (A/R) =	**243.75**	**hours/year**
L_L = Loading loss (lb/1000 gal) = 12.46 (S)(P)(M)/T =	**2.3201**	**lb/1000 gal**

Total Uncontrolled Hydrocarbon Losses:

Hourly		
THL_H = (R)(42 gal/bbl)(L_L/1000) =	**15.59**	**lbs/hr**
Daily		
THL_D = (THL_H)(HLPD) =	**97.45**	**lbs/day**
Annual		
THL_A = (HLPY)((THL_H)(1/2000) =	**1.90**	**TPY**

Total Controlled Hydrocarbon Losses:

Hourly		
THL_{HC} = (THL_H)(1-eff) =	**0.78**	lbs/hr
Daily		
THL_{DC} = (THL_D)(1-eff) =	**4.87**	lbs/day
Annual		
THL_{AC} = (THL_A)(1-eff) =	**0.095**	TPY

Processed by: JJM Date: March 24, 2021

Notes:

1. Data provided by the applicant
2. AP-42, (Chapter 5, 5th Edition, January 1995), Table 5.2-1
3. If not otherwise provided, crude oil is assumed to be 50 lb/lb-mole.
4. If not otherwise provided, vapor pressure is calculated from CARB AB-2588 Guidelines, page 103, eq. 25
5. R is calculated by adding 460 to ^{0}F.

10.3 Equipment List

Santa Barbara County Air Pollution Control District – Equipment List

PT-70/Reeval 08240 R11 / FID: 03321 Newlove Lease / SSID: 02667

A PERMITTED EQUIPMENT

1 Fugitive Components

1.1 Valves - Gas Service

Device ID #	**112500**	***Device Name***	**Valves - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	418 clps		

1.2 Flanges & Connections - Gas Service

Device ID #	**112501**	***Device Name***	**Flanges & Connections - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	2775 clps		

1.3 Pressure Safety Valves - Gas Service

Device ID #	**113146**	***Device Name***	**Pressure Safety Valves - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	1 clp		

1.4 Valves - Oil Service

Device ID #	**112812**	***Device Name***	**Valves - Oil Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	389 clps		

1.5 Flanges/Connections - Oil Service

Device ID #	**112813**	***Device Name***	**Flanges/Connections - Oil Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	2,293 clps		

1.6 Pump Seals - Oil Service

Device ID #	**112814**	***Device Name***	**Pump Seals - Oil Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	44 clps		

1.7 Fugitive Hydrocarbon Components

Device ID #	**386204**	***Device Name***	**Fugitive Hydrocarbon Components**
Rated Heat Input		*Physical Size*	69.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas/Condensate Service Valves Acc/Inacc = 5 clps Flanges/Connections Acc/Inacc = 63 clps Compressor Seals to Atm = 1 clp Associated with backup VRU-02 per PTO 14019.		

1.8 Fugitive Hydrocarbon Components

Device ID #	**394721**	***Device Name***	**Fugitive Hydrocarbon Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas/Condensate Service Components: Valves - Accessible/Inaccessible = 2, Flanges/Connections - Accessible/Inaccessible = 36, PSV - To Atm/Flare = 1; Oil Service Components: Valves - Accessible/Inaccessible = 3, Flanges/Connections - Accessible/Inaccessible = 15 Associated with replacement Wash Tank (DID 394720) from PTO 15506		

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

2.1 Well Cellars

Device ID #	**003041**	***Device Name***	**Well Cellars**
Rated Heat Input		*Physical Size*	1044.00 Square Feet Cellar Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Ech approximately 6' by 6' (36 SF each).		

2.2 Oil and Gas Wellheads

Device ID #	**003042**	***Device Name***	**Oil and Gas Wellheads**
Rated Heat Input		*Physical Size*	78.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

3 Tanks

3.1 Crude Oil Storage Tank

Device ID #	**002974**	***Device Name***	**Crude Oil Storage Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	5586
Model		*Serial Number*	
Location Note			
Device Description	21.5' in dia. by 15.4' high, connected to the vapor recovery system.		

3.2 Wash Tank

Device ID #	**394720**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	3000.00 BBL
Manufacturer		*Operator ID*	T-3
Model		*Serial Number*	
Location Note			
Device Description	Dimensions: 29.7' diameter x 24' high, maximum throughput of 3,000 bbl/day, connected to vapor recovery		

3.3 Wash Tank

Device ID #	**109949**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	3000.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-640
Model		*Serial Number*	
Location Note			
Device Description	29.7' dia. by 24' high, connected to the vapor recovery system.		

3.4 Wash Tank

Device ID #	**388303**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	3000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Fixed roof tank 29.7 feet in diameter by 24 feet high. Connected to vapor recovery. Replaced DID# 002979 under ATC 14693 due to floor replacement		

3.5 Wastewater Tank

Device ID #	**107475**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	10000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	55' diameter x 24' high; connected to the vapor recovery system		

3.6 Wastewater Tank

Device ID #	**110332**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	21.5' dia. by 16' high, connected to the vapor recovery system.		

4 Pits and Sumps

4.1 Wastewater Pit

Device ID #	**101173**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	5 ' dia.		

4.2 Wastewater Pit

Device ID #	**101174**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	4' dia.		

4.3 Wastewater Pit

Device ID #	**101175**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	2' dia.		

4.4 Wastewater Pit

Device ID #	**101184**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	5' dia.		

4.5 Pit Pumps

Device ID #	**101176**	***Device Name***	**Pit Pumps**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Each pump driven by a 7.5 hp electric motor.		

4.6 Spill Catch Pan

Device ID #	**101177**	***Device Name***	**Spill Catch Pan**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	24" wide by 32" long, located near the meter prover connection.		

4.7 Wastewater Pit

Device ID #	**101178**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	3' dia.		

4.8 Wastewater Pit

Device ID #	**101185**	***Device Name***	**Wastewater Pit**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	4' dia.		

4.9 Vacuum Truck Washout Pit #1

Device ID #	**113871**	***Device Name***	**Vacuum Truck Washout Pit #1**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Liquid Area = 5 ft x 12 ft = 60 sq ft Truck Washout Area = 12 ft x 35 ft = 420 sq ft Equipped with a wooden wall 35 ft from the liquid area. The wall is made of 2 in x 6 in boards held in place by angle irons.		

4.10 Vacuum Truck Washout Pit #2

Device ID #	**113872**	***Device Name***	**Vacuum Truck Washout Pit #2**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Liquid Area = 5 ft x 12 ft = 60 sq ft Truck Washout Area = 12 ft x 35 ft = 420 sq ft Equipped with a wooden wall 35 ft from the liquid area. The wall is made of 2 in x 6 in boards held in place by angle irons.		

5 LACT Transfer System

5.1 Charge Pump

Device ID #	**101181**	***Device Name***	**Charge Pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 10 hp electric motor.		

5.2 Sample Pump

Device ID #	**101182**	***Device Name***	**Sample Pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 1.5 hp electric motor.		

5.3 Shipping Pump

Device ID #	**101183**	***Device Name***	**Shipping Pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 10 hp electric motor.		

6 Weigh Meters

Device ID #	**101186**	***Device Name***	**Weigh Meters**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Each 4' dia. by 5' high, connected to the gas gathering system. (A1, A2, B1, D2, F1, and F2 test meters; D1 test vessel; D1 test separator)		

7 Gas/Liquid Separators

Device ID #	**101187**	***Device Name***	**Gas/Liquid Separators**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Each 3' dia. by 10' high, connected to the gas gathering system.		

8 Gas/Liquid Separator

Device ID #	**114716**	***Device Name***	**Gas/Liquid Separator**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	4' dia. by 6' long, connected to the gas gathering system.		

9 Blowdown Vessel

Device ID #	**101189**	***Device Name***	**Blowdown Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	1' dia. by 12' long.		

10 Blowdown Vessel Blowcase

Device ID #	**101190**	***Device Name***	**Blowdown Vessel Blowcase**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	3' dia. by 4' long. (Blowcases 2703-B, 2763-C, 2705C, 2705C Pig)		

11 Condensate Storage Vessel

Device ID #	**107854**	***Device Name***	**Condensate Storage Vessel**
Rated Heat Input		*Physical Size*	1055.00 Gallons
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

12 Vapor Recovery System

Device ID #	**112557**	***Device Name***	**Vapor Recovery System**
Rated Heat Input		*Physical Size*	15.00 Horsepower (Electric Motor)
Manufacturer	Hy-Bon Engineering	*Operator ID*	
Model	HB 50	*Serial Number*	
Location Note			
Device Description	Serving one wastewater tank (107475), three wash tanks (2973, 2978, & 2979), and one crude tank (2974). The vapor recovery efficiency is assumed to be 95% by weight at each vapor recovery point.		

13 Automatic Well Tester

Device ID #	**112817**	***Device Name***	**Automatic Well Tester**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Two feet in diameter by 5 feet long, horizontal, connected to the gas gathering system. Includes two header systems referred to as Pipe Rack B-2 and Pipe Rack B-3.		

14 Lease Automatic Custody Transfer - Phase 1

14.1 Oil Tank Battery Sump Pump

Device ID #	**109470**	***Device Name***	**Oil Tank Battery Sump Pump**
Rated Heat Input		*Physical Size*	2.00 Horsepower (Electric Motor)
Manufacturer	Stancor	*Operator ID*	P-280
Model	SSD-200	*Serial Number*	
Location Note	Newlove Lease		
Device Description	Line size: 2"; 40 gpm@ 50' TDH; driver = 3600 rpm		

14.2 Produced Water Transfer Pump

Device ID #	**109471**	***Device Name***	**Produced Water Transfer Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-335A
Model	3196MTX	*Serial Number*	727F460 1W3
Location Note	Newlove Lease		
Device Description	320 gpm @ 160 ft TDH, size: 1-1/2x3-10, driver rpm = 3500		

14.3 LACT Charge Pump

Device ID #	**109472**	***Device Name***	**LACT Charge Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-361A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	110 gpm@50 ft TDH, size: 2x2, driver rpm = 1750, part of LACT		

14.4 Sample Pump

Device ID #	**109473**	***Device Name***	**Sample Pump**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-368
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	line size: 0.5"; 12 gpm@60 psi; part of LACT Unit		

14.5 Produced Water Transfer Pump

Device ID #	**109474**	***Device Name***	**Produced Water Transfer Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-335B
Model	3196MTX	*Serial Number*	727F460 2W3
Location Note	Newlove Lease		
Device Description	320 gpm @ 160 ft TDH, size: 1-1/2x3-10, driver rpm = 3500		

14.6 LACT Charge Pump

Device ID #	**109475**	***Device Name***	**LACT Charge Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-361B

Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	110 gpm@50 ft TDH, size 2x2" line, driver rpm = 1750, part of LACT		

14.7 Reject Tank Pump

Device ID #	**109476**	***Device Name***	**Reject Tank Pump**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer	Tuthill	*Operator ID*	P-365A
Model	GG 120	*Serial Number*	G10751
Location Note	Newlove Lease		
Device Description	116 gpm@60 ft TDH; 3" line; driver rpm = 1750		

14.8 Reject Tank Pump

Device ID #	**109477**	***Device Name***	**Reject Tank Pump**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer	Tuthill	*Operator ID*	P-365B
Model	GG 120	*Serial Number*	G10758
Location Note	Newlove Lease		
Device Description	116 gpm@60 ft TDH; 3" line; driver rpm = 1750		

14.9 Oil Pan Drain Pump

Device ID #	**109478**	***Device Name***	**Oil Pan Drain Pump**
Rated Heat Input		*Physical Size*	1.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-369
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Line size = 1"; 12 gpm@60 psig; part of LACT Unit		

15 Hydrogen Sulfide Scrubber

Device ID #	**113142**	***Device Name***	**Hydrogen Sulfide Scrubber**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease - Serving compressor K-4		
Device Description	Vertical, 13 feet high by 4 feet in diameter. Uses Sulfa Scrub or equivalent to remove hydrogen sulfide from produced gas.		

16 Crude Oil Loading Rack

Device ID #	**113485**	***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.		

17 Vapor Recovery Unit

Device ID #	**386203**	***Device Name***	**Vapor Recovery Unit**
Rated Heat Input		*Physical Size*	15.00 Horsepower (Electric Motor)
Manufacturer	Hy-Bon	*Operator ID*	
Model	HB-50	*Serial Number*	TBD
Location Note	Newlove Tank Battery		
Device Description	This unit serves as a backup the existing vapor recovery unit at the Newlove Tank Battery. The unit serves three wash tanks (IDs# 2973, 109949, & 2979), the crude storage tank (ID# 2974), and the wastewater tank (ID# 107474), with a vapor recovery efficiency of 95% by weight at each collection point.		

10.4 Well List

Pacific Coast Energy Company LP

Newlove Lease O&G Wells

Well Count = 78

Formatted API	Well	Well Statu	Pool WellType	Sectio	Townshi	Rang	Latitud	Longitud
083-02287	31	A	OB	25	09N	34W	34.8249393	-120.4046591
083-00648	100	A	OG	30	09N	33W	34.8245942	-120.3908162
083-02266	2	A	OG	31	09N	33W	34.8194522	-120.4012952
083-02267	3	A	OG	36	09N	34W	34.8191071	-120.4069278
083-02274	14	A	OG	36	09N	34W	34.82098	-120.4027251
083-02277	18	I	OG	25	09N	34W	34.8353375	-120.4058501
083-02278	19	A	OG	24	09N	34W	34.8369352	-120.4028258
083-02285	27	A	OG	26	09N	34W	34.8262773	-120.4214297
083-02286	29	I	OG	25	09N	34W	34.8261322	-120.4107902
083-02288	32	A	OG	25	09N	34W	34.8282633	-120.4043386
083-02291	36	A	OG	25	09N	34W	34.8314679	-120.4098392
083-02292	37	A	OG	30	09N	33W	34.8284636	-120.392624
083-02295	40	I	OG	31	09N	33W	34.8191658	-120.3991046
083-02297	42	A	OG	30	09N	33W	34.8242916	-120.3969943
083-02301	46	A	OG	32	09N	33W	34.8190495	-120.3775074
083-02303	48	A	OG	32	09N	33W	34.8211595	-120.3787737
083-02306	51	A	OG	25	09N	34W	34.82901	-120.413986
083-02307	52	A	OG	25	09N	34W	34.827997	-120.415029
083-02308	54	A	OG	25	09N	34W	34.8263702	-120.4171347
083-02309	55	A	OG	25	09N	34W	34.8265132	-120.4132429
083-02310	56	A	OG	26	09N	34W	34.8273171	-120.4194736
083-02311	57	A	OG	25	09N	34W	34.8232193	-120.4155952
083-02312	58	A	OG	35	09N	34W	34.8213716	-120.4195906
083-02314	62	A	OG	25	09N	34W	34.824805	-120.414728
083-02315	63	I	OG	30	09N	33W	34.83309	-120.3976457
083-02316	64	A	OG	25	09N	34W	34.8338256	-120.4068059
083-02317	65	A	OG	26	09N	34W	34.8246236	-120.4214333
083-02318	68	A	OG	25	09N	34W	34.830493	-120.4117831
083-02319	69	A	OG	25	09N	34W	34.8281433	-120.4105713
083-02320	71	A	OG	25	09N	34W	34.8231868	-120.4177009
083-02321	72	A	OG	25	09N	34W	34.8292623	-120.4117015
083-02322	73	A	OG	26	09N	34W	34.8255365	-120.4194356
083-02323	74	A	OG	25	09N	34W	34.8297201	-120.4079061
083-02326	81	I	OG	25	09N	34W	34.833775	-120.401792
083-02327	82	A	OG	26	09N	34W	34.8230986	-120.4211898
083-02332	90	A	OG	30	09N	33W	34.8350673	-120.3991223
083-02333	91	A	OG	30	09N	33W	34.8318744	-120.4018034
083-02334	92	A	OG	30	09N	33W	34.8302727	-120.3926037
083-02335	93	A	OG	30	09N	33W	34.8350615	-120.3968974
083-02336	94	A	OG	30	09N	33W	34.8264466	-120.3973546
083-02337	95	A	OG	19	09N	33W	34.8368463	-120.3969269
083-02338	96	A	OG	30	09N	33W	34.8227961	-120.3930084
083-02340	99	A	OG	30	09N	33W	34.8227729	-120.3886171
083-02342	102	A	OG	30	09N	33W	34.8227758	-120.3952366
083-20320	104	A	OG	31	09N	33W	34.821095	-120.3943566

083-20386	106	A	OG	25	09N	34W	34.8321823	-120.4115733
083-20510	107	I	OG	25	09N	34W	34.822607	-120.411798
083-21377	200	I	OG	36	09N	34W	34.8215475	-120.4160001
083-21433	108	A	OG	36	09N	34W	34.8214804	-120.4172985
083-21951	17A	A	OG	35	09N	34W	34.8194132	-120.420946
083-22212	110	A	OG	25	09N	34W	34.8306079	-120.4145004
083-22227	105	A	OG	30	09N	33W	34.8331903	-120.39755
083-22425	302	A	OG	30	09N	33W	34.8230117	-120.395071
083-22447	303	A	OG	25	09N	34W	34.821733	-120.4060226
083-22448	300H	A	OG	25	09N	34W	34.829749	-120.409865
083-22449	304	A	OG	30	09N	34W	34.8262698	-120.3973056
083-22502	305H	A	OG	36	09N	34W	34.8212945	-120.4075908
083-22503	306H	A	OG	25	09N	34W	34.8293226	-120.4137082
083-22506	307H	A	OG	31	09N	34W	34.8192414	-120.3970371
083-22510	308 H	A	OG	25	09N	34W	34.8313277	-120.4066868
083-22514	310H	A	OG	25	09N	34W	34.8303863	-120.4117605
083-22515	312H	A	OG	25	09N	34W	34.8281625	-120.410422
083-22518	309H	A	OG	25	09N	34W	34.8283319	-120.4044612
083-22519	311H	A	OG	25	09N	34W	34.8313052	-120.40469
083-22524	112	A	OG	30	09N	33W	34.8245189	-120.3977623
083-22525	111	A	OG	31	09N	33W	34.8196688	-120.4013544
083-22526	113	A	OG	30	09N	33W	34.8244897	-120.390925
083-22529	313H	A	OG	30	09N	33W	34.8263945	-120.3973203
083-22531	314H	A	OG	30	09N	33W	34.8265736	-120.3973618
083-22533	315H	A	OG	36	09N	34W	34.821232	-120.4075215
083-22543	317H	A	OG	36	09N	34W	34.8195509	-120.4040021
083-22545	325H	A	OG	30	09N	33W	34.8330325	-120.3976912
083-22546	321H	A	OG	25	09N	34W	34.8263007	-120.4171772
083-22547	322H	A	OG	25	09N	34W	34.8232559	-120.4156211
083-22548	326H	A	OG	30	09N	33W	34.8329866	-120.3977121
083-22549	327H	N	OG	31	09N	33W	34.8196107	-120.401308
083-22629	328H	A	OG	31	09N	33W	34.8195441	-120.4012981
083-22642	329H	A	OG	30	09N	33W	34.8245829	-120.3977764

PART II

PACIFIC COAST ENERGY COMPANY LP

NEWLOVE LEASE - DIATOMITE FACILITY

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

PART II - DIATOMITE PROJECT

TABLE OF CONTENTS

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ABBREVIATIONS/ACRONYMS

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

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (renewal of *Part 70 Operating Permit 8240*) as well as the State Operating Permit (reevaluation of *Permit to Operate 8240*). 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 eleventh renewal of the Part 70 permit, and may include additional applicable requirements and associated compliance assurance conditions. This is Part II of a two-part permit and consists of facility modifications permitted under PTO 12084 *(Diatomite Project)* at the Newlove lease. The Diatomite Project is a steam enhanced oil recovery project located within the Newlove Lease in the Orcutt Hill production field.

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

1.2 Facility Overview

1.2.1 General Overview: The Newlove 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.

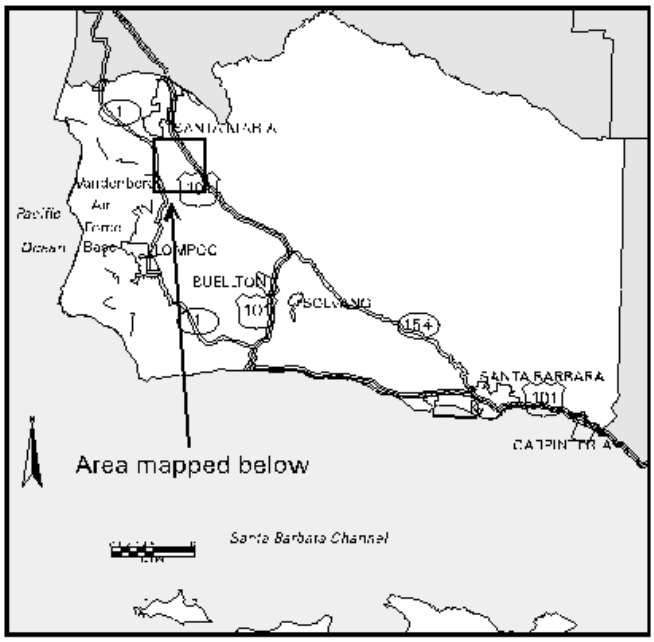
Date of Transfer	New Owner	New Operator
April 9, 1996	Nuevo Energy Company	Torch Operating Company
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company
November 5, 2004	BreitBurn Energy	BreitBurn Energy
December 1, 2011	Pacific Coast Energy	Pacific Coast Energy

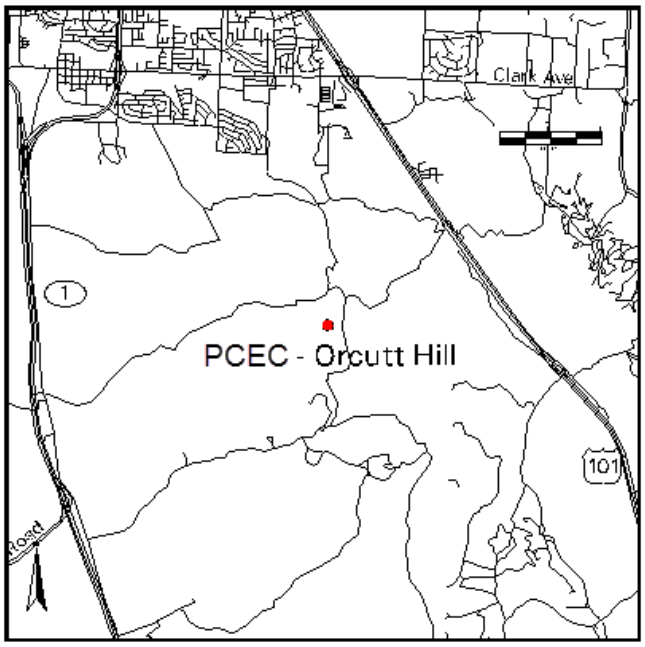
For District regulatory purposes, the facility is located in the Northern Zone of Santa Barbara County[2]. Figure 1.1 shows the relative location of the facility within the county.

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

PACIFIC COAST ENERGY - ORCUTT HILL STATIONARY SOURCE

Figure 1.1 Location Map for the Newlove 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 Diatomite project is located within the Newlove Lease and 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 gathering and shipping systems
- Gas fired steam generators
- Fugitive emission components in gas/liquid hydrocarbon service

The Diatomite Project was permitted under PTO 12084 for the purpose of producing wells by steam injection. Oil, water and gas are produced from 97 wells utilizing steam injection to enhance the oil recovery process. Well steaming consists of injecting steam into several wells in each pod for three to five days. The steam then "soaks" in the wells for one to two days before the wells are returned to production. While the first wells are soaking, steam injection is moved to the next set of wells in the pod. This process continues until all wells in the pod have been steamed, after which the cycle is repeated. A water polishing system provides water for the steam generators.

Crude oil production from the Diatomite Project is sent to a tank farm, metered at a LACT unit and shipped from the lease via a pipeline. Produced gas is comingled with the Orcutt field gas, is compressed and distributed back to the field by the Orcutt Compressor Plant for fuel gas purposes. Oil produced at the Diatomite Project is not commingled with other oil produced from the Newlove lease.

1.2.2 Facility New Source Review Overview: Table 1.1 provides a summary of the New Source Review history of the Diatomite portion of the Newlove Lease.

Table 1.1
New Source Review Overview

Permit Number	Issuance Date	Permitted Modification
ATC 12084	06/05/07	Diatomite project including 3 steam generators, a production tank, a tank farm for water polishing and ancillary oil and gas processing equipment.
ATC 12084-03	11/05/2010	Modify Phase 2 of Diatomite Project.
ATC 13141	08/26/2009	Permit 4 Diatomite Project Wells.
ATC 13230	12/29/2009	Permit 5 Non-Diatomite Wells.
ATC 12084-03	11/05/2010	Modify Phase 2 of the Diatomite Project.
ATC 13617	02/01/2012	Relocate 15 wells from Pod #3.

1.3 Emission Sources

Emission sources at the Diatomite Project equipment consist of oil and gas wells, oil/water/gas separation equipment, steam generators, tanks, sumps and fugitive emission components, such as process-line valves and flanges. Section 4 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources for Diatomite operations include:

- Ninety-seven (97) oil and gas wells
- Three (3) 62.5 MMBtu/hr steam generators(plus one additional steam generator permitted under FID 10482)
- Two (2) wash tanks
- Two (2) crude oil storage tanks
- One (1) Drain tank
- One (1) waste water tank
- Two (2) sand Bins
- Fugitive emission components in gas/liquid hydrocarbon service

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

1.4 Emission Control Overview

Emission controls utilized on the Diatomite Project equipment include:

→ A vapor recovery/gas collection (VRGC) system to collect reactive organic vapors from the gas/liquid separators and the tanks. A 95-percent control efficiency is applied for the use of vapor recovery. The vapors are used as make-up gas to the tanks.

→ Three steam generators equipped with ultra low-NO_X burners, automatic excess O_2 trim controllers and exhaust gas recirculation. Steam generator emissions (at standard conditions and corrected to 3% O_2) are limited to 7 (SG-400) or 9 ppmv (SG-100 and 300) of NO_X, 8.5 ppmv of ROC and 27 ppmv of CO. The NO_X and ROC limits represent BACT. The CO limit is based on PCEC's application.

→ The steamed wells are not "blown down" to atmosphere. The produced steam, gas and oil are routed to the production gathering system.

→ Low emitting design components to reduce emission of fugitive hydrocarbons from the Diatomite project equipment. An enhanced fugitive hydrocarbon inspection and maintenance program (monthly monitoring with BACT level leak detection and repair triggers). This is expected to control emissions in excess of District Rule 331 requirements and to maintain fugitive ROC emission limits under permitted limits (based on District Policy and Procedure 6100.072.1998). All fugitive emissions are calculated using the correlation equation methodology.

→ A SulfaTreat System operated at the primary facility serves as the primary emission controls for the H_2S concentrations in the Diatomite produced gas. The highest expected H_2S concentration in untreated production gas is 20,000 ppm_v. The maximum anticipated volume of produced gas from the Diatomite project and that which is required to be treated by this system is 1050 Mscfd.

→ The steam generators are required to maintain a minimum combustion section temperature of 1275 º F and operate at a combustion residence time of no less than 4.88 seconds to provide greater than 90% percent destruction efficiency of produced gas in order to meet Rule 325.E. requirements. A destruction efficiency of greater than 99% at this minimum temperature has been demonstrated.

1.5 Offsets/Emission Reduction Credit Overview

The Pacific Coast Energy Company - Orcutt Hill Stationary Source triggers offsets for NO_x 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 also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability.

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

Phil Brown
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 Overview: The Diatomite Project wells utilize steam injected into the oil-bearing reservoir to reduce the viscosity of the oil and enhance recoverability. The project consists of three 62.5 MMBtu/hr steam generators, six well pods, a tank farm, and a water polishing system. Each well pod has 16 wells. Two of these wells are previously permitted wells as part of the original Newlove field operations.

2.1.2 Gas, Oil, and Water Separation: Produced oil, water and gas are piped to the Diatomite tank battery where it passes through two three-phase separators and one two-phase separator. Liquids from the separators are sent to the wash tanks where oil and water are separated. Oil is piped to the crude tanks and the water is sent to the wastewater tanks. The storage tanks are connected to a vapor recovery system. A 95-percent control efficiency is applied for the use of vapor recovery. Vapors are directed back to the storage tanks as make-up gas.

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.

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

2.2 Support Systems

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

2.3 Maintenance/Degreasing Activities

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

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

2.4 Planned Process Turnarounds

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

2.5 Other Processes

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

2.6 Detailed Process Equipment Listing

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

3.0 Regulatory Review

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

3.1 Rule Exemptions Claimed

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

- Section D.6 De Minimis Exemptions: This section requires PCEC to maintain a record of each de minimis change, which includes emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the District upon request. As of June 2020, the de minimis total at the 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.

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

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

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

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

3.2 Compliance with Applicable Federal Rules and Regulations

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

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

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

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

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

The District has verified that the Diatomite Project does not meet the MACT definition of a natural gas processing plant, and does not contain a glycol dehydration unit or storage vessel with potential for flash emissions. (Recent API gravity results indicated no flash potential based on sampling at two tanks: Tank T-350 on April 11, 2008: 13.3 API; at Tank T-340 on April 23, 2008: 14.6 API). Therefore, the Diatomite Project is not an affected source per 40CFR63.760 (b), and 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) do not apply.

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 Newlove Lease. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the Newlove Lease. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to the Newlove Lease. These tables are based on data available from the District's administrative files and from the permittee's Part 70 Operating Permit renewal application. Table 3.4 includes the adoption dates of these rules.

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

3.3 Compliance with Applicable State Rules and Regulations

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

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

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

3.4 Compliance with Applicable Local Rules and Regulations

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

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

Rule 201 - Permits Required: This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance that may cause the issuance

of air contaminants. The equipment included in this permit is listed in Attachment 10.4. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

Rule 210 - Fees: Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C). Attachment 10.6 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 Ringlemann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringlemann Chart. Sources subject to this rule include all internal combustion engines at the facility. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules and by requiring visible emissions inspections of the diesel engines.

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

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

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO_2 (by volume) and 0.3 gr/scf (at 12% CO_2) respectively. It is unlikely that gas fired engines will exceed these standards.

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

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

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

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

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

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

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

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

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

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

Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. Ongoing compliance with the many provisions of this rule will be assessed via inspection by District personnel using an organic vapor analyzer and through analysis of operator records. The Newlove Lease does not

perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the vapor recovery system.

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

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. A degassing Plan is not required for the Diatomite tanks.

Rule 344 - Sumps, Pits and Well Cellars: Rule 344 requires an inspection and maintenance plan for well cellars. The permittee has instituted a program to monitor well cellars and pump them out if the thickness of the oil/petroleum products exceeds 2 inches or the cellar is over 50-percent full of any liquid. Compliance is determined through required recordkeeping and District inspection. There are no sumps, pits or well cellars associated with the Diatomite Project.

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 Newlove Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

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

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

c. Is not the result of improper maintenance;

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

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

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

3.5 Compliance History

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

3.5.1 Facility Inspections. Routine facility inspections were conducted on June 21, 2018, June 4, 2019, May 27, 2020 and January 12, 2021 since issuance of the previous permit renewal. The reports for these inspections were reviewed as part of the current permit renewal process. An enforcement action was issued during the January 12, 2021 inspection. Details of this enforcement action are provided below.

3.5.2 Violations: The following enforcement action was issued to this facility since issuance of the previous permit renewal. Compliance has been achieved for this violation.

NOV NO.	Date Issued	Description
#12657	01/19/2021	Failure to control emissions from an open-ended line.

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

Table 3.1 - Generic Federally-Enforceable District Rules

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

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

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

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

Table 3.3 - Non-Federally-Enforceable District Rules

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

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

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	August 25, 2016
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	June 21, 2012
Rule 202	Exemptions to Rule 201	August 25, 2016
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	June 1981
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	June 12, 2012
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323.I	Architectural Coatings	June 19, 2014
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	July 19, 2001
Rule 326	Storage of Reactive Organic Compound Liquids	July 19, 2001
Rule 328	Continuous Emissions Monitoring	October 23, 1978

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

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

4.0 Engineering Analysis

4.1 General

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

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

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

4.2 Stationary Combustion Sources

4.2.1 General: The stationary combustion sources associated with the Diatomite Project consists of three 62.5 MMBtu/hr field gas fired steam generators. These units are used to thermally enhance existing oil recovery in the Orcutt Hill Field using down-hole steam injection. Steam is injected into the oil bearing reservoir, reducing the viscosity of the oil and enhancing its recoverability. The steam generators are fired field gas.

4.2.2 Steam Generator Emission Factors: The following is documentation of the steam generator emissions in parts per million:

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

Therefore:

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

Where:

$(2.634 \times 10^{-9}) = (1 \text{ lb-mole} / 379 \text{ ft}^3)$ (1/1,000,000)

F factor = Stack flow at 3% O_2 = 10,051 dscf/MMBtu at 3% O_2

MW NO_X	= 46.01 lb/lb-mole
MW ROC	= 16 lb/lb-mole
MW CO	= 28 lb/lb-mole

NO_X Emission Factor =	0.0090 and 0.0110 lb/MMBtu	(Source: BACT Limit)
ROC Emission Factor =	0.0040 lb/MMBtu	(Source: BACT Limit)
CO Emission Factor =	0.0190 lb/MMBtu	(application)

Calculated ppm limits:

NO_X = 7 ppmvd and 9 ppmvd
ROC = 8.5 ppmvd
CO = 27 ppmvd

4.2.3 Steam Generator Emission Controls: The emission controls for the steam generators include the use of an ultra low-NO_X burner, automatic excess O_2 trim controllers and exhaust gas recirculation. Steam generator emissions (at standard conditions and corrected to 3% O_2) are limited to 9 ppmv for units ID #109530 and ID #109458 and 7 ppmv of NO_X for unit (ID#114798). All units are subject to 8.5 ppmv of ROC and 27 ppmv of CO. The NO_X and ROC limits represent BACT. The CO limit is based on PCEC's application. These limits have been verified through source testing.

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices associated with the Diatomite Project have been quantified using the correlation equation method, P&P 6100.072 *(Correlation Equation Methodology to Estimate Mass ROC Emissions at O&G Facilities)*, for all components associated with the Diatomite Project.

The emission calculation methodology for the fugitive hydrocarbon emissions based on P&P 6100.072 is detailed in Table 5.4 of this permit. All fugitive hydrocarbon components subject to this methodology are monitored by PCEC on a monthly basis. The leak rates from the monitoring are separated into two leak rate groups, "<10K" and "≥10K". Each component is then assigned the THC leak rate from Table SVRF-2 in District P&P 6100.072.1998 corresponding to service type (gas/light liquid or oil) component type (e.g. valve, flange, connector, PRD, pump/compressor seal, other). ROC/THC ratios are assigned to each component from District Policy and Procedure 6100.061.1998 *Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts*.

Ongoing compliance is determined by inspection with an organic vapor analyzer and verification of operator records. Permitted fugitive ROC emissions from fugitive components reflect the elimination of ethane from the list of ROCs.

4.4 Tanks/Vessels/Sumps/Separators

4.4.1 Oil-Water Separation and Crude Oil Storage Tanks: The Diatomite Project utilizes two 5,480 bbl wash tanks for oil-water separation, two 2,100 bbl crude storage tanks and one closed drain tank. Emissions from these tanks are calculated using USEPA AP-42, Chapter 7 - Liquid Storage Tanks (5th Edition, 2/96). Attachment 10.2 contains emission spreadsheets showing the detailed calculations for these tanks.

4.4.2 Pits, Sumps and Well Cellars: There are no pits, sumps, or well cellars associated with the Diatomite Project.

4.4.3 Waste Water Tanks: The Diatomite Project uses one 2800 bbl waste water tank. The tank is served by vapor recovery. Emissions from the tank are calculated using the same methodology as pits and sumps, and is based on District's P&P 6100.060 (*Calculation of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for the Revised ROC*

Definition). Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for the tanks.

4.5 Other Emission Sources

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

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

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

4.6 Vapor Recovery/Control Systems

The vapor recovery system collects ROC emissions from the tanks. The collected vapors used as make-up gas to for the tank battery. Overall ROC control efficiency for the system is assumed to be 95 percent.

4.7 BACT/NSPS/NESHAP/MACT

Best Available Control Technology (BACT) was required for the Diatomite Project based on the uncontrolled NO_x and ROC Project Potential to Emit exceeding the 25 lb/day criteria pollutant thresholds for BACT. BACT for NOx and ROC is required for the Diatomite Project. FGR controls on the steam generators were previously determined through District observed source testing to comply with the BACT NOx limits of 7 ppmv (@3%O2) for unit ID #114798 and 9 ppmv (@3%O2) for units ID #109530 and ID #109485. These BACT standards differ due to the dates of installation of these units. BACT for the fugitive I&M components, as well as, the BACT requirements detailed above, are listed in Table 5.7

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

4.8 CEMS/Process Monitoring/CAM

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include the volume of gas burned in the steam generators, fuel usage meters, water injection mass flow meters. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within

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

4.8.3 CAM: The 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 source testing of air emissions and process parameters for the steam generators. See Table 5.6 of this permit for source testing requirements.

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

- → Produced Oil: API gravity and true vapor pressure of the crude oil.
- → Produced Gas: The H_2S and total sulfur content of fuel gas (i.e., Diatomite Project produced gas and PUC/Orcutt Hill Field produced gas blend).

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

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

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

5.0 Emissions

5.1 General

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

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility. Section 5.6 (if applicable) provides the estimated emissions

from permit exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7 addresses GHG emissions.

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

5.2 Permitted Emission Limits - Emission Units

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

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

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

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility. There has been no change to the Dolomite Project permitted emission totals since issuance of the previous permit renewal. A correction was made to the non-Dolomite fugitive emission totals listed in Table 5.4. See Section 5.3 of Part I for details.

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

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

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

5.4 Part 70: Federal Potential to Emit for the Facility

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

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.5-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.5-2. 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. The family trap is considered exempt and the emissions appear in the de minimis table.

5.7 Greenhouse Gas Emissions Computations

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

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

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

Table 5.1-1
PCEC Newlove Lease: Diatomite Project
PTO 8420-R11
Operating Equipment Description

		Device Specifications					Usage Data			Max Operating Schedule			
Equipment Category	**Description**	**Dev No**	**Feed**	**Parameter**	**Size**	**Units**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**
Phase I													
Combustion	Steam Generator (SG 100)	109530		PUC/prod gas	62.5	MMBTU/hr			1.0	1.0	24	2,190	8,760
				TVP									
Tanks	Crude Tank T-350	109488	Crude	3.000	2,100	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wash Tank T-340	109487	O/W	3.000	5,480	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Reject/Stock Tank T-360	109489	O/W	3.000	2,100	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Wastewater Tank T-330	109486	Water	-	2,800	bbls	--	--	1.0	1.0	24	2,190	8,760
				Service									
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		--	Gas/Lt Liq	6,821	comp	0.31	ROC/TOC	1.0	1.0	24	2,190	8,760
Phase 2													
Combustion	Steam Generator (SG 300)	109485		PUC/prod gas	62.5	MMBTU/h	--	--	1.0	1.0	24	2,190	8,760
				TVP									
Tanks	Wash Tank T-640	109536	O/W	3.000	5,480	bbls	3,000	bbl/day	1.0	1.0	24	2,190	8,760
	Drain Tank T-690	113561	Water	-	100	bbls	--	--	1.0	1.0	24	2,190	8,760
	Mobile Sand Bin #1	113481	Water	-	5,050	gallons	--	--	1.0	1.0	24	2,190	8,760
	Mobile Sand Bin #2	113482	Water	-	5,050	gallons	--	--	1.0	1.0	24	2,190	8,760
				Service	Month #3								
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		--	Gas/Lt Liq	3,375	comp	0.31	ROC/TOC	1.0	1.0	24	2,190	8,760
SG-400 + Fugitives													
Combustion	Steam Generator (SG-400)	114798		PUC/prod gas	62.5	MMBTU/h	--	--	1.0	1.0	24	2,190	8,760
				Service									
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		--	Gas/Lt Liq	15,703	comp	0.31	ROC/TOC	1.0	1.0	24	2,190	8,760

Table 5.1-2
PCEC Newlove Lease: Diatomite Project
PTO 8420-R11
Equipment Emission Factors

			Emission Factors								
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**$PM_{2.5/10}$**	**GHG**	**Units**	**Notes**
Phase I											
Combustion	Steam Generator (SG 100)	109530	0.011	0.004	0.019	0.004	0.006	0.006	117.000	lb/MMBTU	A
Tanks	Crude Tank T-350	109488	See attached worksheets for emission factors.								
	Wash Tank T-340	109487									
	Reject/Stock Tank T-360	109489									
	Wastewater Tank T-330	109486	--	0.00063	--	--	--	--		lb/ft^2-day	
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		See attached worksheet for emission factors.							lb/comp-day	B
Phase 2											
Combustion	Steam Generator (SG 300)	109485	0.011	0.004	0.019	0.004	0.006	0.006		lb/MMBTU	A
Tanks	Wash Tank T-640	109536	See attached worksheets for emission factors.								
	Drain Tank T-690	113561	--	0.00063	--	--	--	--		lb/ft^2-day	
	Mobile Sand Bin #1	113481	--	0.00189	--	--	--	--		lb/ft^2-day	
	Mobile Sand Bin #2	113482	--	0.00189	--	--	--	--		lb/ft^2-day	
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		See attached worksheet for emission factors.							lb/comp-day	B
SG-400 + Fugitives											
Combustion	Steam Generator (SG-400)	114798	0.009	0.004	0.019	0.004	0.006	0.006		lb/MMBTU	A
Fugitive Components	Valves, Connectors, Flanges, PRD, Se:		See attached worksheet for emission factors.							lb/comp-day	B

Notes:

A - NOx, ROC, and CO em factors: manufacturers specs; SOx em factor: mass balance based on 23 ppmv S content as H2S and 1050 BTU/scf; PM, PM10: AP-42, Table 1.4-2

B - Screening Value Range Factor (SVRF) emission factors found in APCD Policy and Procedure 6100.072.1998

Table 5.1-3
PCEC Newlove Lease: Diatomite Project
PTO 8420-R10
Hourly and Daily Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG	
Equipment Category	**Description**	**Dev No**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**	**lb/hr**	**lb/day**
Phase I																
Combustion	Steam Generator (SG 100)	109530	0.69	16.50	0.25	5.93	1.19	28.50	0.23	5.55	0.38	9.00	0.38	9.00	7312.50	175500.00
Tanks	Crude Tank T-350	109488			0.01	0.29										
	Wash Tank T-340	109487			0.00	0.01										
	Reject/Stock Tank T-360	109489			0.01	0.29										
	Wastewater Tank T-330	109486			0.01	0.14										
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.79	18.96										
Phase 1 Subtotal			**0.69**	**16.50**	**1.07**	**25.62**	**1.19**	**28.50**	**0.23**	**5.55**	**0.38**	**9.00**	**0.38**	**9.00**	**7312.50**	**175500.00**
Phase 2a																
Combustion	Steam Generator (SG 300)	109485	0.69	16.50	0.25	5.93	1.19	28.50	0.23	5.55	0.38	9.00	0.38	9.00	7312.50	175500.00
Tanks	Wash Tank T-640	109536			0.00	0.01										
	Drain Tank T-690	113561			0.00	0.04										
	Mobile Sand Bin #1	113481			0.01	0.26										
	Mobile Sand Bin #2	113482			0.01	0.26										
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.12	2.93										
SG-400 + Fugitives																
Combustion	Steam Generator (SG-400)	114798	0.53	12.81	0.25	5.93	1.19	28.50	0.23	5.55	0.38	9.00	0.38	9.00	7312.50	175500.00
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.61	14.64										
Phase 1 + 2 Subtotal			**1.38**	**33.00**	**1.46**	**35.06**	**2.38**	**57.00**	**0.46**	**11.11**	**0.75**	**18.00**	**0.75**	**18.00**	**14625.00**	**351000.00**
SG-400 + Fugitives			**0.53**	**12.81**	**0.86**	**20.57**	**1.19**	**28.50**	**0.23**	**5.55**	**0.38**	**9.00**	**0.38**	**9.00**	**7312.50**	**175500.00**
Phase 1 + 2 + SG-400 + Fugitives Total			**1.91**	**45.81**	**2.32**	**55.63**	**3.56**	**85.50**	**0.69**	**16.66**	**1.13**	**27.00**	**1.13**	**27.00**	**21937.50**	**526500.00**

Table 5.1-4
PCEC Newlove Lease: Diatomite Project
PTO 8420-R10
Quarterly and Annual Emissions

			NO_X		ROC		CO		SO_X		PM		$PM_{2.5/10}$		GHG	
Equipment Category	**Description**	**Dev No**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**
Phase I																
Combustion	Steam Generator (SG 100)	109530	0.75	3.01	0.27	1.08	1.30	5.20	0.25	1.01	0.41	1.64	0.41	1.64	8007.19	32028.75
Tanks	Crude Tank T-350	109488			0.01	0.05										
	Wash Tank T-340	109487			0.00	0.00										
	Reject/Stock Tank T-360	109489			0.01	0.05										
	Wastewater Tank T-330	109486			0.01	0.03										
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.56	2.23										
Phase 1 Subtotal			**0.75**	**3.01**	**0.86**	**3.44**	**1.30**	**5.20**	**0.25**	**1.01**	**0.41**	**1.64**	**0.41**	**1.64**	**8007.19**	**32028.75**
Phase 2																
Combustion	Steam Generator (SG 300)	109485	0.75	3.01	0.27	1.08	1.30	5.20	0.25	1.01	0.41	1.64	0.41	1.64	8007.19	32028.75
Tanks	Wash Tank T-640	109536			0.00	0.00										
	Drain Tank T-690	113561			0.03	0.10										
	Mobile Sand Bin #1	113481			0.01	0.05										
	Mobile Sand Bin #2	113482			0.01	0.05										
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.24	0.99										
Phase 2 Subtotal			**0.75**	**3.01**	**0.56**	**2.28**	**1.30**	**5.20**	**0.25**	**1.01**	**0.41**	**1.64**	**0.41**	**1.64**	**8007.19**	**32028.75**
SG-400 + Fugitives																
Combustion	Steam Generator (SG-400)	114798	0.58	2.34	0.27	1.08	1.30	5.20	0.25	1.01	0.41	1.64	0.41	1.64	8007.19	32028.75
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals				0.67	2.67										
Phase 1 + 2 Total			**1.51**	**6.02**	**1.42**	**5.72**	**2.60**	**10.40**	**0.51**	**2.03**	**0.82**	**3.29**	**0.82**	**3.29**	**16014.38**	**64057.50**
SG-400 + Fugitives			**0.58**	**2.34**	**0.94**	**3.75**	**1.30**	**5.20**	**0.25**	**1.01**	**0.41**	**1.64**	**0.41**	**1.64**	**8007.19**	**32028.75**
Phase 1 + 2 + SG-400 + Fugitives Total			**2.09**	**8.36**	**2.36**	**9.47**	**3.90**	**15.60**	**0.76**	**3.04**	**1.23**	**4.93**	**1.23**	**4.93**	**24021.56**	**96086.25**

Table 5.1-5
PCEC Newlove Lease: Diatomite Project
PTO 8240-R11
Summary of Fugitive Emission Estimates Per APCD P&P 6100.072.1998

Phase 1 & PTO 14385

Category	Product	Number of Components Month 1			Number of Components Month 2			Number of Components Month 3			THC SVRF (lb/comp-day)		ROC /THC	lb/mo (#1)	lb/mo (#2)	lb/mo (#3)	ROC lb/day	ROC TPQ	ROC TPY
		leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K							
Valves	Gas/Lt Liq	1,156	2	1,158	1,157	1	1,158	1,157	1	1,158	1.85E-03	7.33E+00	0.31	158.40	89.30	89.30	5.21	0.17	0.67
PRD	Gas/Lt Liq	13	1	14	14	0	14	14	0	14	1.27E-02	9.76E+00	0.31	93.59	1.68	1.68	3.08	0.05	0.19
Others	Gas/Lt Liq	499	1	500	500	0	500	499	1	500	1.27E-02	9.76E+00	0.31	151.78	59.88	151.78	4.99	0.18	0.73
Connectors	Gas/Lt Liq	3,734	2	3,736	3,734	2	3,736	3,734	2	3,736	6.35E-04	1.37E+00	0.31	48.19	48.19	48.19	1.58	0.07	0.29
Flanges	Gas/Lt Liq	1,399	1	1,400	1,400	0	1,400	1,400	0	1,400	1.48E-03	3.23E+00	0.31	49.98	19.54	19.54	1.64	0.04	0.18
Open-ended line	Gas/Lt Liq	0	0	0	0	0	0	0	0	0	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Compressors	Gas/Lt Liq	0	1	1	1	0	1	1	0	1	3.07E-02	3.80E+00	0.31	35.83	0.29	0.29	1.18	0.02	0.07
Pumps	Gas/Lt Liq	11	1	12	12	0	12	12	0	12	3.07E-02	3.80E+00	0.31	39.02	3.47	3.47	1.28	0.02	0.09
Total		**6,812**	**9**	**6,821**	**6,818**	**3**	**6,821**	**6,817**	**4**	**6,821**							**18.96**	**0.56**	**2.23**

Note: Includes ATC 14385

Phase 2a

Category	Product	Number of Components Month 1			Number of Components Month 2			Number of Components Month 3			THC SVRF (lb/comp-day)		ROC /THC	lb/mo (#1)	lb/mo (#2)	lb/mo (#3)	ROC lb/day	ROC TPQ	ROC TPY
		leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K							
Valves	Gas/Lt Liq	389	1	390	390	0	390	390	0	390	1.85E-03	7.33E+00	0.31	75.90	6.80	6.80	0.22	0.04	0.18
PRD	Gas/Lt Liq	10	0	10	10	0	10	10	0	10	1.27E-02	9.76E+00	0.31	1.20	1.20	1.20	0.04	0.00	0.01
Others	Gas/Lt Liq	151	0	151	151	0	151	151	0	151	1.27E-02	9.76E+00	0.31	18.08	18.08	18.08	0.59	0.03	0.11
Connectors	Gas/Lt Liq	1,050	1	1,051	1,050	1	1,051	1,050	1	1,051	6.35E-04	1.37E+00	0.31	19.20	19.20	19.20	0.63	0.03	0.12
Flanges	Gas/Lt Liq	325	0	325	325	0	325	325	0	325	1.48E-03	3.23E+00	0.31	4.54	4.54	4.54	0.15	0.01	0.03
Open-ended line	Gas/Lt Liq	0	0	0	0	0	0	0	0	0	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Compressors	Gas/Lt Liq	1	0	1	1	0	1	1	0	1	3.07E-02	3.80E+00	0.31	0.29	0.29	0.29	0.01	0.00	0.00
Pumps	Gas/Lt Liq	10	0	10	10	0	10	10	0	10	3.07E-02	3.80E+00	0.31	2.89	2.89	2.89	0.10	0.00	0.02
Total		**1,936**	**2**	**1,938**	**1,937**	**1**	**1,938**	**1,937**	**1**	**1,938**							**1.74**	**0.11**	**0.46**

Phase 2b including Pods 2 and 6

Category	Product	Number of Components Month 1			Number of Components Month 2			Number of Components Month 3			THC SVRF (lb/comp-day)		ROC /THC	lb/mo (#1)	lb/mo (#2)	lb/mo (#3)	ROC lb/day	ROC TPQ	ROC TPY
		leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K							
Valves	Gas/Lt Liq	253	1	254	254	0	254	254	0	254	1.85E-03	7.33E+00	0.31	73.53	4.43	4.43	0.15	0.04	0.16
PRD	Gas/Lt Liq	3	0	3	3	0	3	3	0	3	1.27E-02	9.76E+00	0.31	0.36	0.36	0.36	0.01	0.00	0.00
Others	Gas/Lt Liq	73	1	74	74	0	74	74	0	74	1.27E-02	9.76E+00	0.31	100.77	8.86	8.86	0.29	0.06	0.24
Connectors	Gas/Lt Liq	839	1	841	840	1	841	840	1	841	6.35E-04	1.37E+00	0.31	17.94	17.95	17.95	0.59	0.03	0.11
Flanges	Gas/Lt Liq	262	0	262	262	0	262	262	0	262	1.48E-03	3.23E+00	0.31	3.66	3.66	3.66	0.12	0.01	0.02
Open-ended line	Gas/Lt Liq	0	0	0	0	0	0	0	0	0	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Compressors	Gas/Lt Liq	0	0	0	0	0	0	0	0	0	3.07E-02	3.80E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	Gas/Lt Liq	3	0	3	3	0	3	3	0	3	3.07E-02	3.80E+00	0.31	0.87	0.87	0.87	0.03	0.00	0.01
Total		**1,433**	**3**	**1,437**	**1,436**	**1**	**1,437**	**1,436**	**1**	**1,437**							**1.19**	**0.13**	**0.54**
Phase I, 2a, & 2b		**10,181**	**14**	**10,196**	**10,191**	**5**	**10,196**	**10,190**	**6**	**10,196**							**21.89**	**0.81**	**3.22**

SG-400 + Fugitives

Category	Product	Number of Components			THC SVRF (lb/comp-day)		ROC/THC	lb/mo	ROC lb/day	ROC TPQ	ROC TPY
		leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K					
Valves	Gas/Lt Liq	3,646	0	3,646	1.85E-03	7.33E+00	0.31	63.60	2.09	0.10	0.38
PRD	Gas/Lt Liq	0	0	0	1.27E-02	9.76E+00	0.31	0.00	0.00	0.00	0.00
Others	Gas/Lt Liq	2,147	0	2,147	1.27E-02	9.76E+00	0.31	257.10	8.45	0.39	1.54
Connectors	Gas/Lt Liq	7,222	1	7,223	6.35E-04	1.37E+00	0.31	56.16	1.85	0.08	0.34
Flanges	Gas/Lt Liq	2,684	1	2,685	1.48E-03	3.23E+00	0.31	67.91	2.23	0.10	0.41
Open-ended line	Gas/Lt Liq	0	0	0	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00
Compressors	Gas/Lt Liq	2	0	2	3.07E-02	3.80E+00	0.31	0.58	0.02	0.00	0.00
Pumps	Gas/Lt Liq	0	0	0	3.07E-02	3.80E+00	0.31	0.00	0.00	0.00	0.00
Total		**15,701**	**2**	**15,703**					**14.64**	**0.67**	**2.67**
Phase I, 2a, 2b, SG-400 + F		**25,882**	**16**	**25,899**					**36.53**	**1.47**	**5.89**

Valves	642	2	644
PRD	13	0	13
Others	224	1	225
Connectors	1,889	2	1,891
Flanges	587	0	587
Open-ended lines	0	0	0
Compressors	1	0	1
Pumps	13	0	13
	3,369	5	3,374

Table 5.2
PCEC Newlove Lease: Diatomite Project
PTO 8420-R10
Total Diatomite Project

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	1.91	0.74	3.56	0.69	1.13	1.13	21,937.50
Tanks	--	0.05	--	--	--	--	--
Fugitive Components	--	1.52	--	--	--	--	--
	1.91	**2.32**	**3.56**	**0.69**	**1.13**	**1.13**	**21937.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	45.81	17.78	85.50	16.66	27.00	27.00	526,500.00
Tanks	--	1.32	--	--	--	--	--
Fugitive Components	--	36.53	--	--	--	--	--
	45.81	**55.63**	**85.50**	**16.66**	**27.00**	**27.00**	**526,500.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	2.09	0.81	3.90	0.76	1.23	1.23	24,021.56
Tanks	--	0.08	--	--	--	--	--
Fugitive Components	--	1.46	--	--	--	--	--
	2.09	**2.36**	**3.90**	**0.76**	**1.23**	**1.23**	**24,021.56**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	8.36	3.24	15.60	3.04	4.93	4.93	96,086.25
Tanks	--	0.34	--	--	--	--	--
Fugitive Components	--	4.30	--	--	--	--	--
	8.36	**7.88**	**15.60**	**3.04**	**4.93**	**4.93**	**96,086.25**

Table 5.3
PCEC Newlove Lease: Diatomite Project
PTO 8420-R10
Diatomite Project Federal PTE

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	1.91	0.74	3.56	0.69	1.13	1.13	21,937.50
Tanks	--	0.05	--	--	--	--	--
	1.91	**0.80**	**3.56**	**0.69**	**1.13**	**1.13**	**21937.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	45.81	17.78	85.50	16.66	27.00	27.00	526,500.00
Tanks	--	1.32	--	--	--	--	--
	45.81	**19.09**	**85.50**	**16.66**	**27.00**	**27.00**	**526,500.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	2.09	0.81	3.90	0.76	1.23	1.23	24,021.56
Tanks	--	0.08	--	--	--	--	--
	2.09	**0.90**	**3.90**	**0.76**	**1.23**	**1.23**	**24,021.56**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Combustion	8.36	3.24	15.60	3.04	4.93	4.93	96,086.25
Tanks	--	0.34	--	--	--	--	--
	8.36	**3.58**	**15.60**	**3.04**	**4.93**	**4.93**	**96,086.25**

Table 5.4
Pacific Coast Newlove Lease (Diatomite + non-thermal): Permit to Operate 8240-R11
Total Newlove Lease Facility Potential To Emit

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks		0.12	--	--	--	--	--
Pits and Sumps		1.49	--	--	--	--	--
Exempt Surface Coating		0.01	--	--	--	--	--
Fugitive Hydrocarbons		3.71	--	--	--	--	--
Diatomite							
Stream Generator	1.91	0.74	3.56	0.69	1.13	1.13	21,937.50
Tanks	--	0.05	--	--	--	--	--
Fugitive Components	--	1.52	--	--	--	--	--
	1.91	**7.64**	**3.56**	**0.69**	**1.13**	**1.13**	**21937.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	2.97	--	--	--	--	--
Pits and Sumps	--	35.79	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	88.84	--	--	--	--	--
Diatomite							
Stream Generator	45.81	17.78	85.50	16.66	27.00	27.00	526,500.00
Tanks	--	1.32	--	--	--	--	--
Fugitive Components	--	36.53	--	--	--	--	--
	45.81	**183.25**	**85.50**	**16.66**	**27.00**	**27.00**	**526,500.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	0.14	--	--	--	--	--
Pits and Sumps	--	1.63	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	4.06	--	--	--	--	--
Diatomite							
Stream Generator	2.09	0.81	3.90	0.76	1.23	1.23	24,021.56
Tanks	--	0.08	--	--	--	--	--
Fugitive Components	--	1.46	--	--	--	--	--
	2.09	**8.18**	**3.90**	**0.76**	**1.23**	**1.23**	**24,021.56**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	$PM_{2.5/10}$	GHG
Non-Diatomite							
Tanks	--	0.54	--	--	--	--	--
Pits and Sumps	--	6.52	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	16.21	--	--	--	--	--
Diatomite							
Stream Generator	8.36	3.24	15.60	3.04	4.93	4.93	96,086.25
Tanks	--	0.34	--	--	--	--	--
Fugitive Components	--	4.30	--	--	--	--	--
	8.36	**31.17**	**15.60**	**3.04**	**4.93**	**4.93**	**96,086.25**

Table 5.5-1
Equipment Hazardous Air Pollutant Factors

			Emission Factors																				
Equipment Category	Description	Dev No	Formaldehyde	Hexane	Acetaldehyde	Benzene	Toluene	PAHs	Naphthalene	Acrolein	Xylene	Ethyl benzene	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Iso-Octane	Units
Phase I																							
Combustion[1,2]	Steam Generator (SG 100)	109530	1.23E-02	4.60E-03	3.10E-03	5.80E-03	2.65E-02	4.00E-04	3.00E-04	2.70E-03	1.97E-02	6.90E-03	2.00E-04	1.20E-05	1.10E-03	1.40E-03	8.40E-05	3.80E-04	2.60E-04	2.10E-03	2.40E-05	–	lb/MMcf
Tanks	Crude Tank T-150[3]	109488	–	5.31E-02	–	2.71E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Wash Tank T-340[3]	109487	–	5.31E-02	–	2.71E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Reject/Slock Tank T-360[3]	109489	–	5.31E-02	–	2.71E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Wastewater Tank T-330[4]	109490	–	5.28E-02	–	2.64E-02	1.65E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.95E-03	lb/lb-ROC
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals[5]		–	0.1677	–	0.0032	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1494	lb/lb-ROC
Phase 2																							
Combustion[1,2]	Steam Generator (SG 300)	109495	1.23E-02	4.60E-03	3.10E-03	5.80E-03	2.65E-02	4.00E-04	3.00E-04	2.70E-03	1.97E-02	6.90E-03	2.00E-04	1.20E-05	1.10E-03	1.40E-03	8.40E-05	3.80E-04	2.60E-04	2.10E-03	2.40E-05	–	lb/MMcf
Tanks	Wash Tank T-640[3]	109536	–	5.31E-02	–	2.71E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Drain Tank T-660[3]	113561	–	5.31E-02	–	2.71E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Mobile Sand Bin #1[6]	113491	–	5.28E-02	–	2.64E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
	Mobile Sand Bin #2[6]	113492	–	5.28E-02	–	2.64E-02	1.58E-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.52E-03	lb/lb-ROC
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals[5]		–	0.1677	–	0.0032	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1494	lb/lb-ROC
SG-400 + Fugitives																							
Combustion[1,2]	Steam Generator (SG-400)	114798	1.23E-02	4.60E-03	3.10E-03	5.80E-03	2.65E-02	4.00E-04	3.00E-04	2.70E-03	1.97E-02	6.90E-03	2.00E-04	1.20E-05	1.10E-03	1.40E-03	8.40E-05	3.80E-04	2.60E-04	2.10E-03	2.40E-05	–	lb/MMcf
Fugitive Components	Valves, Connectors, Flanges, PRD, Seals[7]		–	0.1688	–	0.00325	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1494	lb/lb-ROC

References:

[1] Ventura County Air Pollution Control District, May 2001. AB 2588 Combustion Emission Factors Natural Gas Fired External Combustion Equipment Table.

[2] USEPA, July 1998, AP-42 Chapter 1.4 Table 1.4-4: Emission Factors for Metals from Natural Gas Combustion.

[3] 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.

[4] 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.

[5] Component emission factors, originally in units of lb/lb-TOC, were converted to lb/lb-ROC using an ROC/TOC fraction of 0.11 from Table 2 of the District's P&P 6100.061.

[6] 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.

Table 5.5-2
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	Dev No	Formaldehyde	Hexane	Acetaldehyde	Benzene	Toluene	PAHs	Naphthalene	Acrolein	Xylene	Ethyl benzene	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Iso-Octane
Phase I																						
Combustion	Steam Generator (SG 100)	109530	3.21E-03	1.20E-03	8.08E-04	1.51E-03	6.91E-03	1.04E-04	7.82E-05	7.04E-04	5.14E-03	1.80E-03	5.21E-05	3.13E-06	2.87E-04	3.65E-04	2.19E-05	9.91E-05	6.78E-05	5.48E-04	6.26E-06	–
Tanks	Crude Tank T-350	109488	–	2.82E-03	–	1.44E-03	8.39E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.40E-04
	Wash Tank T-340	109487	–	1.01E-04	–	5.14E-05	3.00E-05	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8.57E-06
	Reject/Stock Tank T-360	109489	–	2.82E-03	–	1.44E-03	8.39E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.40E-04
	Wastewater Tank T-330	109486	–	1.37E-03	–	6.88E-04	4.29E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.29E-04
Fugitive Components	Valves, Connectors, Flanges, PRD, S		–	0.3735	–	0.0072	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.3326
Phase 2																						
Combustion	Steam Generator (SG 300)	109485	3.21E-03	1.20E-03	8.08E-04	1.51E-03	6.91E-03	1.04E-04	7.82E-05	7.04E-04	5.14E-03	1.80E-03	5.21E-05	3.13E-06	2.87E-04	3.65E-04	2.19E-05	9.91E-05	6.78E-05	5.48E-04	6.26E-06	–
Tanks	Wash Tank T-640	109530	–	1.01E-04	–	5.14E-05	3.00E-05	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8.57E-06
	Drain Tank T-690	113561	–	5.56E-03	–	2.84E-03	1.66E-03	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.73E-04
	Mobile Sand Bin #1	113481	–	2.55E-03	–	1.27E-03	7.64E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.18E-04
	Mobile Sand Bin #2	113482	–	2.55E-03	–	1.27E-03	7.64E-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.18E-04
Fugitive Components	Valves, Connectors, Flanges, PRD, S		–	0.1669	–	0.0032	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1488
SG-400 + Fugitives																						
Combustion	Steam Generator (SG-400)	114798	3.21E-03	1.20E-03	8.08E-04	1.51E-03	6.91E-03	1.04E-04	7.82E-05	7.04E-04	5.14E-03	1.80E-03	5.21E-05	3.13E-06	2.87E-04	3.65E-04	2.19E-05	9.91E-05	6.78E-05	5.48E-04	6.26E-06	–
Fugitive Components	Valves, Connectors, Flanges, PRD, S		–	0.4511	–	0.0087	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.3991
		Total HAPs (TPY):	9.62E-03	1.01E+00	2.42E-03	3.27E-02	2.61E-02	3.13E-04	2.35E-04	2.11E-03	1.54E-02	5.40E-03	1.56E-04	9.39E-06	8.60E-04	1.10E-03	6.57E-05	2.97E-04	2.03E-04	1.64E-03	1.88E-05	8.82E-01

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

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

Facility	Permit #	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Hexane	Iso-Octane	Naphthalene	PAH	Toluene	Xylene
8214 - Orcutt Hill IC Engines	PTO 8819-R8	5.16E-01	4.44E-01	3.37E-01	8.09E-01	3.82E+00	7.08E-01	2.23E-02	4.28E-02	2.14E-02	8.60E-02	2.79E-02
4904 - Orcutt Hill Compressor Plant	PTO 8174-R1	5.97E-06	1.53E-06	3.63E-03	1.99E-05	3.59E-01	5.22E-01	--	6.28E-07	8.34E-07	3.70E-04	5.57E-04
3206 - Cal Coast Lease (Orcutt Hill)	PTO 8226-R10	--	--	4.53	--	--	0.37	0.26	--	--	4.18	4.47
10452 - Orcutt Hill - Steam Generators	PTO 11405-R3	2.97E-04	2.59E-04	2.49E-01	4.63E-04	1.19E-01	7.04E-02	4.15E-02	3.84E-05	2.08E-05	3.84E-01	2.79E-03
3322 - Pinal Lease	PTO 8502-R8	--	--	8.77E-02	--	--	5.67E-01	3.73E-01	--	--	3.03E-02	5.88E-04
3348 - Squires Lease	PTO 8221-R8	--	--	8.33E-02	--	--	6.72E-01	4.78E-01	--	--	4.64E-02	5.88E-04
3319 - Hartnell Lease	PTO 9629-R7	--	--	3.45E-02	--	--	4.84E-01	3.69E-01	--	--	1.60E-02	5.88E-04
3323 Rice Ranch Lease (Orcutt Hill)	PTO 9633-R7	--	--	1.29E-03	--	--	4.16E-02	3.68E-02	--	--	5.00E-04	5.88E-04
3316 - Folsom Lease	PTO 9626-R7	--	--	3.05E-02	--	--	3.40E-01	2.62E-01	--	--	1.08E-02	4.88E-04
3320 - Nobbs Lease	PTO 9637-R7	--	--	3.45E-02	--	--	3.08E-01	2.29E-01	--	--	1.69E-02	5.88E-04
3318 - Boone Lease	PTO 9600-R7	--	--	2.97E-02	--	--	2.98E-01	2.29E-01	--	--	1.08E-02	5.88E-04
3495 - Getty Hobbs Lease (Orcutt Hill)	PTO 9631-R7	--	--	1.29E-03	--	--	4.18E-02	3.58E-02	--	--	5.00E-04	5.88E-04
3313 - Fox Lease	PTO 8514-R9	--	--	3.67E-03	--	--	1.68E-01	1.47E-01	--	--	5.00E-04	5.88E-04
3318 - Graciosa Lease	PTO 9628-R7	--	--	7.77E-03	--	--	1.34E-01	1.11E-01	--	--	6.66E-03	4.88E-04
1964 - Orcutt Hill Field (MVFT)	PTO 11966-R3	--	--	4.09E-04	5.40E-04	--	--	--	--	--	2.20E-03	9.48E-06
3321 - Newlove Lease	PTO 8240-R9	2.63E-03	2.11E-03	2.60E-01	5.40E-03	8.42E-03	3.63E+00	2.86E+00	2.26E-04	3.13E-04	1.42E-01	1.59E-02
Total Stationary Source - By Pollutant		8.52	0.46	5.45	8.81	3.83	7.63	5.48	4.12E-02	2.55E-02	4.31	4.55

Facility	Arsenic	Beryllium	Cadmium	Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Biphenyl	1,3-Butadiene	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane
8214 - Orcutt Hill IC Engines	8.87E-04	--	1.64E-04	8.07E-05	--	2.39E-04	2.19E-04	4.27E-04	2.41E-04	2.17E-06	1.11E-01	4.33E-03	2.63E-03
4904 - Orcutt Hill Compressor Plant	4.17E-07	2.50E-08	2.29E-06	2.92E-06	1.71E-07	7.93E-07	5.42E-07	4.38E-06	5.01E-08	--	--	--	--
3206 - Cal Coast Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	--
10452 - Orcutt Hill - Steam Generators	1.92E-05	1.15E-06	1.05E-04	1.34E-04	8.08E-06	3.65E-05	2.49E-05	2.01E-04	2.30E-06	--	--	--	--
3322 - Pinal Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3348 - Squires Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3319 - Hartnell Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3323 Rice Ranch Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	--
3316 - Folsom Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3320 - Nobbs Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3318 - Boone Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3495 - Getty Hobbs Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	--
3313 - Fox Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
3318 - Graciosa Lease	--	--	--	--	--	--	--	--	--	--	--	--	--
1964 - Orcutt Hill Field (MVFT)	--	--	--	--	--	--	--	--	--	--	--	--	--
3321 - Newlove Lease	1.14E-04	6.75E-06	6.60E-04	1.16E-03	6.67E-05	2.07E-03	2.03E-06	1.64E-03	1.85E-05	--	--	--	--
Total Stationary Source - By Pollutant	8.53E-04	1.06E-05	1.13E-03	1.30E-03	1.39E-05	6.74E-04	4.40E-04	2.28E-03	2.32E-04	2.17E-06	0.11	4.33E-03	2.63E-03

Facility	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	2.18E-03	3.84E-05	3.27E-03	2.03E-03	4.44E-05	2.98E-03	1.11E-03	5.40E-03	4.37E-01	3.32E-05	2.65E-03	1.23E-03	9.929
4904 - Orcutt Hill Compressor Plant	--	--	--	--	--	--	--	--	--	--	--	--	8.532
3206 - Cal Coast Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	14.123
10452 - Orcutt Hill - Steam Generators	--	--	--	--	--	--	--	--	--	--	--	--	6.141
3322 - Pinal Lease	--	--	--	--	--	--	--	--	--	--	--	--	1.079
3348 - Squires Lease	--	--	--	--	--	--	--	--	--	--	--	--	1.281
3319 - Hartnell Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.884
3323 Rice Ranch Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	8.081
3316 - Folsom Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.648
3320 - Nobbs Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.587
3318 - Boone Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.564
3495 - Getty Hobbs Lease (Orcutt Hill)	--	--	--	--	--	--	--	--	--	--	--	--	8.081
3313 - Fox Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.317
3318 - Graciosa Lease	--	--	--	--	--	--	--	--	--	--	--	--	8.257
1964 - Orcutt Hill Field (MVFT)	--	--	--	--	--	--	--	--	--	--	--	--	8.085
3321 - Newlove Lease	--	--	--	--	--	--	--	--	--	--	--	--	6.969
Total Stationary Source - By Pollutant	2.18E-03	3.84E-05	2.27E-03	2.03E-03	4.44E-05	2.98E-03	1.11E-03	5.40E-03	0.40	3.32E-05	2.65E-03	1.23E-03	33.48

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

Table 5.6
Steam Generator Source Test Requirements

Equipment Item	Emission Points	Pollutants/Parameters	Test Method
Each Steam Generator			
	Stacks (outlet)	NO_X - ppmv & lb/mmBTU	EPA Method 7E
		CO - ppmv & lb/mmBTU	EPA Method 10
		ROC - ppmv, lb/mmBTU, lb/hr	EPA Method 18
		Sampling Point Dtr	EPA Method 1
		Stack Gas Flow Rate	EPA Method 2
		O_2, CO_2, Dry Mol Wt	EPA Method 3
		Moisture Content	EPA Method 4
	Inlet	ROC[f] - lb/hr	
		Destruction Efficiency[f]	
	Gas Line	Fuel Gas Flow	Device Gas Meter
		Higher Heating Value	ASTM D-1826-88
		Total Sulfur Content	ASTM D-1072
	Steam Generator	Residence Time (seconds)	Calculated[e]

Site Specific Requirements

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

b. This test is required to characterize the maximum hourly potential to emit when fired on natural gas for NO_X, CO and ROC in both units of ppmvd (at standard conditions and 3% O_2) and pounds per hour. The test shall be performed at the maximum attainable firing rate allowed by this permit. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.

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

d. For NO_X, CO and O_2, a minimum of three 40-minute runs shall be obtained during each test. An ROC sample for each run shall be taken over a minimum of 5 minutes in accordance with the sampling protocol defined in the source test plan. Turnaround time for laboratory analysis of ROC samples shall be no more than 24 hours from the sampling in the field.

e. Residence time shall be calculated based on volumetric flow at actual conditions on a wet basis and nominal interior dimensions of the combustion section of each steam generator.

f. Destruction efficiency applies to the destruction of produced gas in the center burner of the steam generators; only required upon written notification by the District.

Table 5.7
Best Available Control Technology

Emission Source	Pollutant	BACT Technology	BACT Performance Standard
Steam Generator	NO_x	Ultra Low NO_x burner with automatic excess O_2 trim controller and flue gas recirculation (FGR)	ID# 109530 and ID# 109485: 9 ppmv ID# 114798: 7 ppmv NO_x exhaust emission concentration corrected to 3% O_2. Exhaust emission rate: 0.011 lbs/MMBTU: ID# 109530 and ID# 109485 0.009 lbs/MMBTU: ID# 114798
Steam Generator	ROC	Same as above	8.5 ppmv ROC exhaust emission concentration corrected to 3% O_2 or exhaust emission rate of 0.004 lbs/MMBTU
Fugitive Comps – Valves	ROC	Bellows, diaphragm seal, spring-loaded packing, expandable packing, graphite packing, PTE-coated packing, precision machined stem, sealant injection	LDAR: 100 ppmv THC
Fugitive Comps – PRD	ROC	Vented to vapor recovery or closed vent, soft-seat design	PRDs not vented to vapor recovery or closed vent system are subject to LDAR: 100 ppmv THC
Fugitive Comps – Other	ROC	Welded, new gasket rated to 150% of process pressure at process temperature	LDAR: 100 ppmv THC
Fugitive Comps – Connectors	ROC	Welded, new gasket rated to 150% of process pressure at process temperature	LDAR: 100 ppmv THC
Fugitive Comps – Flanges	ROC	Welded, new gasket rated to 150% of process pressure at process temperature	LDAR: 100 ppmv THC
Fugitive Comps – Compressor Seals (Reciprocating Drives)	ROC	Vented to vapor recovery, elastomer bellows, O-ring seals, dry running secondary containment seals	LDAR: 100 ppmv THC
Fugitive Comps – Compressor Seals (Rotary Drives)	ROC	Vented to vapor recovery or closed vent, dual/tandem mechanical seals, leakless design (e.g. magnetic drive)	LDAR: 100 ppmv THC
Fugitive Comps – Pump Seals	ROC	Vented to vapor recovery or closed vent, dual/tandem mechanical seals	LDAR: 500 ppmv THC

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

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

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

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 NO_x and ROCs. Tables 7.3-1, 7.3-2 and 7.3-3 summarize the emissions and offset totals for this stationary source.

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

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

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

Notes:

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

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

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

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

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

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

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

Notes:

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

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

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

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

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

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

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

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

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

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

Table 7.3-3
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.

7.4 Emission Reduction Credits

The Newlove Lease provides 30.86 tons of ROC per quarter and 1.33 tons of NAROC per quarter emission reduction credits to the Freeport McMoran Point Pedernales Project. This facility was included in the emission reduction agreement between Unocal and the District dated August 11, 1986. The ROC credits come from the control of emissions from the three wash tanks and the crude storage tank. The tank emissions include flashing losses from the first wash tank the produced fluid enters. A memo dated April 26, 1988 to the PTO 6708 file 7.2.56 written by Al Ronyecz, the project manager at the time, documents the flashing loss calculations. These credits are verified through annual process parameter monitoring. A complete description of the emission mitigations required for the Point Pedernales Project is in Permit to Operate 6708 for the Lompoc Oil and Gas Plant.

8.0 Lead Agency Permit Consistency

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

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9.0 Permit Conditions

This section lists the applicable permit conditions for the Newlove 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 Newlove 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 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 which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18

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

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

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

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

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

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

A.13 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

A.14 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

A.15 **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.

9.B. Generic Conditions

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

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

which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [*Re: District Rule 301*]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

9.C Requirements and Equipment Specific Conditions

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

C.1 **Petroleum Storage and Processing Tanks.** The following operational limits and restrictions shall apply:

Dev No	Equipment Name; Capacity
Phase I	
109488	Crude Tank T-350, 2,100 bbl capacity
109487	Wash Tank T-340, 5,480 bbl capacity
109489	Reject/Stock Tank T-360, 2,100 bbl capacity
109486	Wastewater Tank T-330, 2,800 bbl capacity
Phase II	
109536	Wash Tank T-640, 5,480 bbl capacity
113561	Drain Tank T-690, 100 bbl capacity
113481	Mobile Sand Bin #1, 5,050 gallon capacity
113482	Mobile Sand Bin #2, 5,050 gallon capacity

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

(b) Operational Limits. The following operational limits shall apply:

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

Phase 1 and Phase 2 oil production [(a)]	3,000	bbl/day
Phase 1 and Phase 2 gas production [(a)]	1,020	mscfd

a. Calculated as monthly production divided by the number of producing days.

(ii) *VRU Use:* All production storage tanks shall be connected to a vapor recovery/gas collection (VRGC) system. The VRGC system shall be in operation when the equipment connected to the VRGC system at the facility is in use. The VRGC system includes piping, valves, and flanges associated with the VRGC system. The VRGC system shall be maintained and operated to minimize the release of emissions from all systems, including pressure relief valves and gauge hatches.

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

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

(ii) On an annual basis, at Wash Tank T-340 (District Device No. 109487), 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 an active flow of crude oil into the tank.

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

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

(i) The volume of oil produced from each project phase each month and the number of days that oil was produced through each tank battery.

(ii) On an annual basis, the API gravity and true vapor pressure.

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

C.2 **Fugitive Hydrocarbon Components.** The following operational limits and restrictions shall apply:

District No.	Equipment
Phase I Components	
-	6,821 gas/lt liquid components
Phase II Components	
-	3,375 gas/lt liquid components
SG-400 Components	
-	15,703 gas/lt liquid components

(a) Emission Limits: Mass emissions from gas/light liquid service fugitive components shall not exceed the daily, quarterly and yearly ROC limits listed in Table 5.1-5.

(b) Operational Limits: The following operational limits shall apply:

(i) Fugitive hydrocarbon emissions shall be computed quarterly and annually consistent with District Policy and Procedure 6100.072.1998 *Using Correlation Equation Methodology to Estimate Mass ROC Emissions at O&G Facilities* (CE Method P&P). The Screening Value Range Factor (SVRF) from the CE Method P&P, Table SVRF-1 shall be used to calculate fugitive emissions of THC for each fugitive component. The appropriate SVRF for each component is determined by service (gas/light liquid and oil), component type (valves, pump seals/compressor seals, others, connectors, flanges, and open-ended lines), and by the THC compound screening values (<10K for non-leaking components and ≥ 10K for leaking components). ROC/THC ratios are assigned to each component from District Policy and Procedure 6100.061.1998 *Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts.*

(ii) A component inventory for each phase of the project shall be maintained according to provisions of the District CE Method P&P. The inventory shall be separated into component categories (valves, flanges, connectors, compressor seals, pump seals, pressure relief devices (PRD), open-ended lines, other) and service (gas/light liquid and oil).

(iii) SVRFs for leaking components shall be applied for the entire monthly monitoring period and fugitive ROC emissions calculated by month.

(iv) Fugitive component ROC emissions shall be totaled on a calendar quarter basis and compared to the quarterly ROC fugitive component emissions limit established in Table 5.1-5 of this permit. Any calendar quarter total of fugitive component ROC emissions exceeding the quarterly Table 5.1-5 limit is a violation of this permit.

(c) Monitoring: On a monthly basis, each project fugitive component identified in the fugitive component count required above shall be monitored for leaks.

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

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

C.3 **Steam Generators.** The following requirements apply to the steam generators:

Dev No	Equipment Name; Size
109530	Steam Generator SG 100, 62.500 MMBtu/hr
109485	Steam Generator SG 300, 62.500 MMBtu/hr
114798	Steam Generator SG 400, 62.500 MMBtu/hr

(a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

(i) *Steam Generator Oxides of Nitrogen (NO_X) Concentration Emissions Limits*. Emissions of NO_X (as NO_2) from the steam generators shall not exceed the following NO_x stack concentration:

a. Steam Generator ID #109530 and ID #109485: 9 ppmvd at 3% O_2 or a NO_X stack emission rate of 0.011 lb/MMBtu. Compliance with this condition shall be based on source testing and the monitoring conditions of this permit.

b. Steam Generator ID# 114798: 7 ppmvd at 3% O_2 or a NO_X stack emission rate of 0.009 lb/MMBtu. Compliance with this condition shall be based on source testing and the monitoring conditions of this permit.

(ii) *Steam Generator Reactive Organic Compounds (ROC) Concentration Emissions Limits.* Emissions of ROC from each steam generator shall not exceed a ROC stack concentration of 8.5 ppmvd at 3% O_2 or a stack emission rate of 0.004 lb/MMBtu. Compliance with this condition shall be based on source testing and the monitoring conditions of this permit.

(iii) *Steam Generator Carbon Monoxide (CO) Concentration Emissions Limits.* Emissions of CO from each steam generator shall not exceed a CO stack concentration of 26 ppmvd at 3% O_2 or a stack emission rate of 0.019 lb/MMBtu. Compliance with this condition shall be based on source testing and the monitoring conditions of this permit.

(b) Operational Restrictions. The Steam Generators are subject to the following operational restrictions:

(i) *Heat Input Limits*. The hourly, daily and annual heat input limits to each steam generator shall not exceed the values listed below. These limits are based on the design rating of the burners and the annual heat input value as listed in the permit

application. Compliance shall be based on data recorded in accordance with permit Conditions and source testing.

Hourly Heat Input	62.500	MMBtu/hour
Daily Heat Input	1500.000	MMBtu/day
Annual Heat Input	547500.000	MMBtu/year

(ii) *Steam Generator Radiant Section Temperature and Residence Time.* Except during startup and shutdown not to exceed one hour, during periods when no oil or gas is being produced, or when produced gas is diverted to the Orcutt Hill gas gathering system, each steam generator shall maintain a radiant section temperature of at least 1275 °F. Residence time within the combustion chamber shall be maintained at a minimum of 4.88 seconds. Compliance with this condition shall be based on source testing and the monitoring conditions of this permit.

(iii) If steam generator burner capacity is not available for the purposes of the destruction of produced gas due to burner upset or breakdown, all produced gas from the production vessels shall be diverted to the Orcutt Hill gas gathering system.

(iv) *Gaseous Fuel Sulfur Limit.* The total sulfur content (calculated as H_2S at standard conditions, 60^o F and 14.7 psia) of the gaseous fuel burned as fuel in the steam generators at the facility shall not exceed the following:

a. PUC gas/Orcutt Hill field gas/Diatomite produced gas: The maximum concentration of total sulfur compounds in all fuel gas to the steam generator (calculated as H_2S at standard conditions, 60 °F and 14.7 psia), shall not exceed 1.36 grains per 100 cubic feet (23 ppm_v).

b. All Diatomite Project produced gas and Orcutt Hill Field produced gas to be burned in the project steam generators shall be treated by the SulfaTreat system or an equivalent District approved system.

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

(i) The volumes (in standard cubic feet) of (1) PUC quality natural gas (including that blended with Orcutt Hill Field produced gas) and (2) Diatomite project produced gas burned in each steam generator shall be measured through the use of calibrated meters or through the use of a District-approved alternate method. The meters shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.

(ii) The higher heating value (HHV in Btu/scf) of the PUC quality natural gas shall be measured annually; the HHV of PUC quality gas blended with Orcutt Hill Field produced gas, and of Diatomite project produced gas combusted in the steam generator, shall be measured quarterly. Measurement shall be in accordance with ASTM D-3588 or a District-approved method. Records shall be kept on site and made available for inspection by the District upon request.

(iii) The permittee shall monitor and record the Steam Generator stack concentration of NO_x, CO, and O_2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month.
A portable analyzer reading in excess of the permitted NO_x and CO concentrations shall not be considered a violation of this permit, so long as one of the following actions are taken:

a. the unit is shut down within 72 hours of the initial out-of-compliance reading, or,

b. the unit is brought into compliance and a follow-up portable analyzer inspection is conducted within 72 hours of the initial out-of-compliance reading.

(iv) All alternate monitoring parameter emission readings shall be taken with the unit operating at conditions representative of normal operations. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the District. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after an unscheduled shutdown of the unit.

(v) *FGR Operating Monitoring.* Each steam generator burner windbox shall be equipped with an oxygen monitor. The burner windbox operating O_2 shall be continuously monitored and the O_2% value displayed when the steam generator is operating.

(vi) The temperature of the radiant section of each steam generator shall be continuously measured using a thermocouple or equivalent temperature measurement device approved by the District.

(vii) The H_2S concentration of Diatomite Project gas treated by the SulfaTreat system and routed to the steam generators shall be measured monthly using colorimetric gas detector tubes. In addition, sampling and lab analysis for total sulfur shall be conducted annually by ASTM 1072 or an alternative District-approved analysis method. Sampling shall occur immediately downstream of the SulfaTreat system or other District approved sampling location.

(viii) The H_2S concentration of the PUC utility gas blended with Orcutt Hill Field produced gas burned by each steam generator shall be measured weekly using colorimetric gas detector tubes. In addition, sampling and lab analysis for total sulfur shall be conducted quarterly by ASTM 1072 or an alternative District-approved analysis method. Sampling shall occur at the gas blending skid.

(ix) All monitoring shall be conducted in accordance with the District-approved *Process Monitor Calibration and Maintenance Plan.*

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

(i) The volume of oil produced from each project phase each month and the number of days that oil was produced through each tank battery.

(ii) On an annual basis, the API gravity and true vapor pressure.

(iii) The volume of (1) PUC natural gas (including Orcutt Hill Field produced gas when blended) and, (2) Diatomite project produced gas combusted each month (in units of standard cubic feet) in each steam generator and the number of days per month that each steam generator operated.

(iv) The H_2S and total sulfur content of fuel gas (i.e., Diatomite Project produced gas and PUC/Orcutt Hill Field produced gas blend).

(v) On a quarterly basis the higher heating value (HHV) in Btu/scf of the PUC natural gas/Orcutt Hill Field produced gas blend.

(vi) On a quarterly basis, the higher heating value (HHV) of the Diatomite Project produced gas (Btu/scf).

(vii) The total sulfur content of the PUC natural gas based on utility gas analyses.

(viii) Dates of Sulfa Treat reactant change-out for each vessel.

(ix) Records required by the following District Rules: 325.F, 331.G, and 344.G. Also records for Rule 343.F if applicable.

(x) Dates, start and end times and total duration of all automatic process shutdowns at V-300 initiated by pressure monitors.

(xi) Date and time of any rupture disk inspection required by the initiation of any alarm corresponding to release pressure and a notation whether the disk was found intact or burst. If the rupture disk was found in a burst condition, record the date, start and end times, total time duration, and calculated

quantity of uncontrolled produced gas emitted from atmospheric releases at the PSVs.

(xii) Date, start and end times, total duration, and calculated quantity of uncontrolled produced gas emitted from atmospheric releases as sensed by any storage tank proximity switch.

(xiii) On an annual basis, the amount of coatings and solvents used. This information must be logged for each coating or solvent. The log shall list (for each material) the quantity of material used, the VOC content, whether the material is photochemically reactive per the definition of Rule 102.F, and whether the material was applied to a surface or disposed of. A Material Safety Data Sheet (MSDS), or other product specification sheet, which specifies the VOC content of the material, shall be maintained with the log. These records may be maintained on a field or lease basis.

(xiv) On a monthly and quarterly basis, the date, time and results (ppmv TOC) of each fugitive component measurement and the date and time of each repair action triggered per the BACT LDAR thresholds, date of re-inspection and ppmv or drop-per-minute reading following repair.

(xv) *Steam Generator Monitoring Records:*

a. the date and time of NO_x, CO, and O_2 measurements

b. the O_2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O_2

c. make and model of exhaust gas analyzer

d. exhaust gas analyzer calibration records

e. description of any corrective action taken to maintain the emissions within the acceptable range

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

C.4 **Best Available Control Technology (BACT).** The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology ("BACT") to the operation of the Diatomite equipment/facilities as described in this permit and the District's Permit Evaluation for this permit. Table 5.7 and the Emissions, Operational, Monitoring, Recordkeeping and Reporting Conditions of this permit define the specific control technology and performance standard emission limits for BACT. The BACT shall be in place, and shall be operational at all times, for the life of the project. BACT related monitoring, recordkeeping and reporting requirements are defined in those specific permit conditions.

C.5 **Minimization of Atmospheric Releases.** The following requirements shall apply to minimize atmospheric releases:

(i) Process monitors shall measure process stream pressures upstream of PSV-V300A, PSV-V300B, PSV-H305A, PSV-V315, PSV-V380A and PSV-V380B. Output signals from each monitor shall be transmitted to the project control room and shall initiate operator alarm or process shutdown at pre-set levels listed below.

(ii) A proximity switch shall be installed on each production storage tank pressure relief valve and hatch with the output signal sent to a District approved recording device to document the duration of any atmospheric releases of production gas.

(iii) The process shall be operated to prevent routine releases of uncontrolled production gas to the atmosphere from any pressure safety valve (PSV). PSV-H305A, PSV-V315, PSV-V380A, and PSV-V380B each shall be fitted with a rupture disk with a disk rupture setting at the release pressure shown in the table below. In order to avoid process upsets resulting in atmospheric relief venting; pressure monitors shall measure the process stream pressure at vessels V-300, V-380A, and V-380B.

If pressure sensors measure any alarm pressure or automatic shutdown pressure at V-300, V-380A or V-380B, the following shall be initiated:

a. Pressure monitor output measures an alarm pressure: Process control room alarm shall be triggered at the alarm pressure specified in the *Process Monitor Calibration and Maintenance Plan*. Operators shall take action to return the plant to normal operating pressures.

b. Pressure monitor output measures an automatic shutdown pressure: Process control room alarm shall be triggered at the automatic shutdown pressure specified in the *Process Monitor Calibration and Maintenance Plan*. An automatic process shutdown shall occur preventing production fluid and gas from entering V-300 at the inlet to V-300 and at Well Manifolds M-410 and M-420.

If pressure sensors measure any release pressure shown in the table below at V-300, H-305, V-315, V-380A, and V-380B, the following shall be initiated:

c. Pressure monitor output measures a release pressure of 150 psig at V-300, H-305, V-315 or 100 psig at V-380A or V-380B: Process control room alarm shall be triggered. A process shutdown shall occur preventing production fluid and gas from entering V-300 at the inlet to V-300 and at Well Manifolds M-410 and M-420.

Any pressure sensor output at vessels V-300, V-380A, or V-380B at or above the alarm pressure or the automatic shutdown pressure as specified in the *Process Monitor Calibration and Maintenance Plan*, or any PSV pressure sensor output at vessels V-300, H-305, V-315, V-380A, or V-380B at or above the release pressure in the table below shall be recorded and an alarm shall be triggered immediately to notify plant operators. The permittee shall notify the District of any release pressure alarm via telephone or email

(enfr@sbcapcd.org) as soon as possible on the day of the alarm but no later than four hours after the start of the next business day).

Any PSV pressure transmitter located downstream of a rupture disk measuring a pressure in excess of atmospheric pressure shall be deemed as evidence of a burst rupture disk and evidence of an uncontrolled production gas release to the atmosphere. The duration of the release shall be defined as the duration of the release alarm at the PSV. Any rupture disk deemed in a burst condition shall be replaced within 24 hours of the onset of the release pressure alarm.

Permittee shall maintain a log of the date and time of all release pressure alarms triggered. The log shall include the time of any vessel release to the atmosphere, the date of rupture disk replacement after a release, the duration and quantity of any gas released to the atmosphere as indicated by the downstream pressure transmitter and any corrective action taken. The log shall be available upon District request.

Vessel	PSV ID	Release Pressure (psig)	Release Point
V – 300	PSV-V300A	150	Wash Tank
V – 300	PSV-V300B	150	Wash Tank
H – 305	PSV-H305A	150	Atmosphere
V – 315	PSV-V315	150	Atmosphere
V - 380A	PSV-V380A	100	Atmosphere
V - 380B	PSV-V380B	100	Atmosphere

(iv) Well Operation and Well Shutdown. Steamed wells shall not be blown down to atmosphere. All produced steam, gas, and oil shall be routed to the production gas gathering system. Automatic well shutdown shall occur at or above a process stream pressure of 90 psig at the M-410 and M-420 Well Manifold. Well shutdown events (date and duration) shall be logged. The log shall be available upon District request.

C.6 **Source Testing.** The following source testing provisions shall apply:

(a) The permittee shall conduct source testing of air emissions and process parameters listed in Table 5.6 of this permit. Source testing shall be performed annually using February as the source test anniversary date for Devices #109530 and #109458 and October as the source test anniversary date for Device #114798), respectively. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur.

(b) The permittee shall submit a written source test plan to the District for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start

of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.

(c) Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, mass emission rates in Table 1 and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.

(d) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

(e) The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District.

C.7 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

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

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

(b) *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) The volume of oil produced from each phase each month and year, and the number of days each month that oil was produced through each tank battery.

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

(e) The volume of PUC natural gas (including Orcutt Hill Field produced gas when blended) and Diatomite project produced gas combusted each month (in units of standard cubic feet) in each steam generator and the number of days per month that the steam generator operated.

(f) On a quarterly basis the higher heating value (HHV) in Btu/scf of the PUC natural gas/Orcutt Hill Field produced gas blend.

(g) On a quarterly basis, the higher heating value (HHV) in Btu/scf of the Diatomite Project produced gas.

(h) The results of all H_2S and total sulfur measurements of gas treated by the SulfaTreat system, and of gas burned in each steam generator.

(i) Dates, start and end times and total hour duration of all automatic process shutdowns at V-300 initiated by pressure monitors.

(j) Date, start and end times, total duration, and calculated quantity of uncontrolled produced gas emitted from atmospheric releases as sensed by any storage tank proximity switch.

(k) Date and time of any rupture disk inspection that found any rupture disk listed in permit Condition C.6 in a burst condition and the resultant duration of any gas released to the atmosphere and the calculated amount of uncontrolled production gas (in scf and pounds of ROC) released to the atmosphere.

(l) By month, number of components by category inspected, number of leaks by component category ≥ 10K ppmv total hydrocarbons, dates and leak repair method for each component.

(m) On an annual basis, a log showing the amount of all coatings and solvents used. Reporting may be included in the annual stationary source coating and solvents report.

(n) On a monthly and quarterly basis, the date, time and results (ppmv TOC) of each fugitive component measurement and the date and time of each repair action triggered per the BACT LDAR thresholds, date of re-inspection and ppmv or drop-per-minute reading following repair.

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

(p) Fugitive ROC emissions (tons) by quarter.

(q) The results of steam generator monitoring, including measured concentrations of NOx, CO, and O_2, as well as records of exhaust gas analyzer calibration.

C.8 **Requirements for Produced Gas.** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

C.9 **Documents Incorporated by Reference.** The documents listed below and any District approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this permit. The documents shall be implemented for the life of the Diatomite Project and shall be made available to District inspection staff upon request.

Enhanced Fugitive Hydrocarbon Inspection and Maintenance Plan for the Diatomite Project (District approved March 17, 2009)

Process Monitor Calibration and Maintenance Plan (District approved November 16, 2007, updated June 3, 2009)

Fuel Use Monitoring Plan for the Diatomite Project (District approved July 10, 2015)

C.10 **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.11 **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.

9.D District-Only Conditions

The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the District and the State of California. These conditions have been determined as being necessary to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any of these conditions shall be a violation of District Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

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

D.2 **Facility Throughput Limitations.** Total Newlove Lease production (non-thermal plus Diatomite) shall be limited to a monthly average of 3,000 barrels of (dry) oil per day. The permittee shall record in a log the volumes of oil produced and the actual number of days in production per month. The above limits are based on actual days of operation during the month.

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

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

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

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

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

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

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

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

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

D.7 **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.8 **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.9 **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 8240-R10

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

10.0 Attachments

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

10.1 EMISSION CALCULATION DOCUMENTATION – NEWLOVE LEASE

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

Reference A - Combustion Equipment

Steam Generators - See Section 4.0

Greenhouse Gases:

Greenhouse Gas Emissions Computations:

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 09. CO_2 equivalent emission factors are calculated for CO_2, CH_4, and N_2O individually, then summed to calculate a total CO_{2e} emission factor. Annual CO_{2e} emission totals are presented in short tons.

For natural gas combustion the emission factor is:

(53.02 kg CO_2/MMbtu) (2.2046 lb/kg) = 116.89 lb CO_2/MMBtu
(0.001 kg CH_4/MMBtu) (2.2046 lb/kg)(21 lb CO_2e/lb CH4) = 0.046 lb CO_2e/MMBtu
(0.0001 kg N_2O/MMBtu) (2.2046 lb/kg)(310 lb CO_2e/lb N_2O) = 0.068 lb CO_2e/MMBtu
Total CO2e/MMBtu = 116.89 + 0.046 + 0.068 = 117.00 lb CO_2e/MMBtu

Reference B - Petroleum Storage Tanks

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

Reference C - Pits, Sumps and Wastewater Tank

→ The maximum operating schedule is in units of hours;

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

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

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

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

Reference D - Piping Components Emitting Fugitive ROCs

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

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

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

Reference E - Solvents

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

→ Daily and annual emission rates assumed to be minimal (0.01 lb/day, 0.01 TPY)

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 =	3
if TVP is entered, enter TVP temperature (°F) =	200
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} =	yes
breather vent pressure setting range (psi) (def = 0.06):	0.06

Attachment:	A
Permit:	PTO 8240-R11
Date:	03/26/21
Tank:	Wash Tank (Diatomite Project)
Name:	
Filename:	
District:	Santa Barbara
Version:	Tank-2b.xls

PRINT

Tank Data		
diameter (feet) =		30
capacity (enter barrels in first col, gals will compute)	5,480	230,160
conical or dome roof? (c, d) =		c
shell height (feet) =		32
roof height (def = 1):		1.5
ave liq height (feet):		31
color {1:Spec Al, 2:Diff 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):		10

Liquid Data	A	B
maximum daily throughput (bopd) =		2,000
Ann thruput (gal): (enter value in Column A if not max PTE)		3.066E+07
RVP (psia):		0.317
°API gravity =		13.3

Computed Values		
roof outage [1] (feet):		0.5
vapor space volume [2] (cubic feet):		1,060
turnovers [3]:		133.21
turnover factor [4]:		0.39
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):		0.060664
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		0.08279
vapor density [14] (lb/cubic foot):		0.000732
vapor expansion factor [15]:		0.09
vapor saturation factor [16]:		0.993461
vented vapor volume (scf/bbl):		12
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Paint Factor Matrix	paint condition	
paint color	good	poor
spec alum	0.39	0.49
diff 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	5.58
gas rvp 7	3.932
crude oil	0.08279
JP -4	1.516
jet kerosene	0.0103
fuel oil 2	0.009486
fuel oil 6	0.0000472

RVP Matrix	
liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	0.439331639
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] =	0.00	0.05	0.01	0.00	0.00	0.00056
working loss [18] =	0.00	0.00	0.00	0.00	0.00	0.00000
flashing loss [19] =	0.23	5.41	0.99	0.01	0.27	0.04937
TOTALS =	**0.23**	**5.47**	**1.00**	**0.0114**	**0.27**	**0.05**

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 =	1.8
if TVP is entered, enter TVP temperature (°F) =	200
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} =	yes
breather vent pressure setting range (psi) (def = 0.06):	0.4

Tank Data		
diameter (feet) =		25
capacity (enter barrels in first col, gals will compute)	2,100	88,200
conical or dome roof? {c, d} =		c
shell height (feet) =		24
roof height (def = 1):		2.5
ave liq height (feet):		12
color {1:Spec Al, 2:Diff 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):		10

Liquid Data	A	B
maximum daily throughput (bopd) =		1,500
Ann thruput (gal): (enter value in Column A if not max PTE)		2.300E+07
RVP (psia):		0.317
°API gravity =		13.3

Computed Values		
roof outage [1] (feet):		0.8
vapor space volume [2] (cubic feet):		6,283
turnovers [3]:		260.71
turnover factor [4]:		0.28
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):		0.060864
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		0.08279
vapor density [14] (lb/cubic foot):		0.000732
vapor expansion factor [15]:		0.066
vapor saturation factor [16]:		0.946822
vented vapor volume (scf/bbl):		12
fraction ROG - flashing losses:		0.306
fraction ROG - evaporative losses:		0.885

Attachment: B
Permit: PTO 8240-R11
Date: 03/26/21
Tank: Crude Tank (Diatomite)
Name: Phase 1
Filename:
District: Santa Barbara
Version: Tank-2b.xls

PRINT

Paint Factor Matrix		
	paint condition	
paint color	good	poor
spec alum	0.39	0.49
diff 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	0.08279
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	0.24508459
JP -4	2.7
jet keroser	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] =	0.01	0.25	0.05	0.00	0.01	0.00
working loss [18] =	0.05	1.15	0.21	0.00	0.06	0.01
flashing loss [19] =	0.17	4.06	0.74	0.01	0.20	0.04
TOTALS =	**0.23**	**5.47**	**1.00**	**0.01**	**0.27**	**0.05**

`

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 =	3
if TVP is entered, enter TVP temperature (°F) =	200
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} =	yes
breather vent pressure setting range (psi) (def = 0.06):	0.4

Attachment: C
Permit: PTO 8240-R11
Date: 03/25/21
Tank: Reject Tank (Diatomite)
Name:
Filename:
District: Santa Barbara
Version: Tank-2b.xls

PRINT

Tank Data		
diameter (feet) =		25
capacity (enter barrels in first col, gals will compute) =	2,100	88,200
conical or dome roof? {c, d} =		c
shell height (feet) =		24
roof height (def = 1):		2.5
ave liq height (feet):		6
color {1:Spec Al, 2:Diff 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):		10

Liquid Data	A	B
maximum daily throughput (bopd) =		1,500
Ann thruput (gal): (enter value in Column A if not max PTE)		2.300E+07
RVP (psia):		0.317
°API gravity =		13.3

Computed Values		
roof outage [1] (feet):		0.6
vapor space volume [2] (cubic feet):		9,226
turnovers [3]:		260.71
turnover factor [4]:		0.28
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):		0.060864
molecular weight [12] (lb/lb-mol):		50
TVP [13] (psia) [adjusted for ave liquid surface temp]:		0.08279
vapor density [14] (lb/cubic foot):		0.000732
vapor expansion factor [15]:		0.066
vapor saturation factor [16]:		0.923794
vented vapor volume (scf/bbl):		12
fraction ROG - flashing losses:		0.308
fraction ROG - evaporative losses:		0.885

Paint Factor Matrix	paint condition	
paint color	good	poor
spec alum	0.39	0.49
dtl 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	0.08279
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	0.439331639
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] =	0.02	0.36	0.07	0.00	0.02	0.00
working loss [18] =	0.05	1.15	0.21	0.00	0.06	0.01
flashing loss [19] =	0.17	4.06	0.74	0.01	0.20	0.04
TOTALS =	**0.23**	**5.58**	**1.02**	**0.01**	**0.28**	**0.05**

Date: 04/06/21
Attachment: D

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	PTO 8240-R11	
Owner/Operator	PCEC	
Facility/Lease	Orcutt Hill	
Boiler Type	Steam Generator #1	
Boiler Mfg.	Esys	
Boiler Model No.	no data	
Boiler Serial/ID No.	no data	
Boiler Horsepower	no data	Bhp
Burner Type	Gas, Ult Low Nox	
Burner Mfg.	No Am	
Burner Model No.	4231G-LE	
Max. Firing Rate of Burner	62.500	MMBtu/hr
Max. Annual Heat Input	547,500.000	MMBtu/yr
Daily Operating schedule	24	hrs/day
Yearly Load factor (%)	100	%
Fuel Type	Natural gas	
High Heating Value	1,050	Btu/scf
Sulfur Content of Fuel	23	ppmvd as H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0060	lb/MMBtu
PM_{10} Emission Factor	0.0060	lb/MMBtu
NO_x Emission Factor	0.0090	lb/MMBtu
SO_x Emission Factor	0.0040	lb/MMBtu
CO Emission Factor	0.0190	lb/MMBtu
ROC Emission Factor	0.0040	lb/MMBtu

RESULTS

	lb/hr	lb/day	TPY
Nitrogen Oxides (as NO_2)	0.69	16.50	3.01
Sulfur Oxides (as SO_2)	0.23	5.55	1.01
PM_{10}	0.38	9.00	1.64
Total Suspended Particulate (PM)	0.38	9.00	1.64
Carbon Monoxide	1.19	28.50	5.20
Reactive Organic Compounds (ROC)	0.25	5.93	1.08

Hourly Heat Release	62.500	MMBtu/hr
Daily Heat Release	1,500.000	MMBtu/day
Annual Heat Release	547,500.000	MMBtu/yr
Rule 342 Applicability	547.5	Billion Btu/yr

Date: 4/16/20217 5:07:05 PM

Attachment: E

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	PTO 8240-R11	
Owner/Operator	PCEC	
Facility/Lease	Orcutt Hill	
Boiler Type	Steam Generator #2	
Boiler Mfg.	Esys	
Boiler Model No.	no data	
Boiler Serial/ID No.	no data	
Boiler Horsepower	no data	Bhp
Burner Type	Gas, Ult Low Nox	
Burner Mfg.	No Am	
Burner Model No.	4231G-LE	
Max. Firing Rate of Burner	62.500	MMBtu/hr
Max. Annual Heat Input	547,500.000	MMBtu/yr
Daily Operating schedule	24	hrs/day
Yearly Load factor (%)	100	%
Fuel Type	Natural gas	
High Heating Value	1,050	Btu/scf
Sulfur Content of Fuel	23	ppmvd as H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0060	lb/MMBtu
PM_{10} Emission Factor	0.0060	lb/MMBtu
NO_x Emission Factor	0.0110	lb/MMBtu
SO_x Emission Factor	0.0040	lb/MMBtu
CO Emission Factor	0.0190	lb/MMBtu
ROC Emission Factor	0.0040	lb/MMBtu

RESULTS

	lb/hr	lb/day	TPY
Nitrogen Oxides (as NO_2)	0.69	16.50	3.01
Sulfur Oxides (as SO_2)	0.23	5.55	1.01
PM_{10}	0.38	9.00	1.64
Total Suspended Particulate (PM)	0.38	9.00	1.64
Carbon Monoxide	1.19	28.50	5.20
Reactive Organic Compounds (ROC)	0.25	5.93	1.08

Hourly Heat Release	62.500	MMBtu/hr
Daily Heat Release	1,500.000	MMBtu/day
Annual Heat Release	547,500.000	MMBtu/yr
Rule 342 Applicability	547.5	Billion Btu/yr

Date: *04/16/21*
Attachment: F

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	PTO 8240-R11	
Owner/Operator	PCEC	
Facility/Lease	Orcutt Hill	
Boiler Type	Steam Generator #3	
Boiler Mfg.	Esys	
Boiler Model No.	no data	
Boiler Serial/ID No.	no data	
Boiler Horsepower	no data	Bhp
Burner Type	Gas, Ult Low NOx	
Burner Mfg.	No Am	
Burner Model No.	4231G-LE	
Max. Firing Rate of Burner	62.500	MMBtu/hr
Max. Annual Heat Input	547,500.000	MMBtu/yr
Daily Operating schedule	24	hrs/day
Yearly Load factor (%)	100	%
Fuel Type	Natural gas	
High Heating Value	1,050	Btu/scf
Sulfur Content of Fuel	23	ppmvd as H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0060	lb/MMBtu
PM_{10} Emission Factor	0.0060	lb/MMBtu
NO_x Emission Factor	0.0110	lb/MMBtu
SO_x Emission Factor	0.0040	lb/MMBtu
CO Emission Factor	0.0190	lb/MMBtu
ROC Emission Factor	0.0040	lb/MMBtu

RESULTS

	lb/hr	lb/day	TPY
Nitrogen Oxides (as NO_2)	0.69	16.50	3.01
Sulfur Oxides (as SO_2)	0.23	5.55	1.01
PM_{10}	0.38	9.00	1.64
Total Suspended Particulate (PM)	0.38	9.00	1.64
Carbon Monoxide	1.19	28.50	5.20
Reactive Organic Compounds (ROC)	0.25	5.93	1.08

Hourly Heat Release	62.500	MMBtu/hr
Daily Heat Release	1,500.000	MMBtu/day
Annual Heat Release	547,500.000	MMBtu/yr
Rule 342 Applicability	547.5	Billion Btu/yr

10.3 IDS Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5}$
PTO 8240 – Newlove Lease (non thermal + Diatomite)						
lb/day	45.81	183.25	85.50	16.66	27.00	27.00
tons/year	8.36	31.17	15.60	3.04	4.93	4.93

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5}$
PTO 8240 – Newlove Lease (non thermal + Diatomite)						
lb/day	45.81	183.25	85.50	16.66	27.00	27.00
tons/year	8.36	31.17	15.60	3.04	4.93	4.93

Table 3
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

10.4 Equipment List

Thursday, May 28, 2015
Santa Barbara County Air Pollution Control District – Equipment List

PT-70/Reeval 08240 R9 / FID: 03321 Newlove Lease / SSID: 02667

A PERMITTED EQUIPMENT

DIATOMITE PROJECT

18 Diatomite Project

18.1 Storage Tanks

18.1.1 Crude Oil Storage Tank

Device ID #	**109488**	***Device Name***	**Crude Oil Storage Tank**
Rated Heat Input		*Physical Size*	2100.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-350
Model		*Serial Number*	3546-3
Location Note	Newlove Lease		
Device Description	25' dia. x 24' ht.		

18.1.2 Crude Oil Storage Tank

Device ID #	**109489**	***Device Name***	**Crude Oil Storage Tank**
Rated Heat Input		*Physical Size*	2100.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-360
Model		*Serial Number*	3545-4
Location Note	Newlove Lease		
Device Description	25' dia. x 24' ht.		

18.1.3 Wash Tank

Device ID #	**109487**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	5480.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-340
Model		*Serial Number*	3546-2
Location Note	Newlove Lease		
Device Description	30' dia. x 32' ht. connected to the vapor recovery system.		

18.1.4 Wash Tank

Device ID #	**109536**	***Device Name***	**Wash Tank**
Rated Heat Input		*Physical Size*	5480.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-640
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	30' DIA x 32' HIGH		

18.1.5 Closed Drain Tank

Device ID #	**113561**	***Device Name***	**Closed Drain Tank**
Rated Heat Input		*Physical Size*	100.00 BBL
Manufacturer		*Operator ID*	T-690
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Diameter = 7 feet 2 inches Height = 4 feet 8.5 inches Serves the water jet wash system and liquid pressure safety valves. Connected to vapor recovery.		

18.1.6 Produced Water Tank

Device ID #	**109486**	***Device Name***	**Produced Water Tank**
Rated Heat Input		*Physical Size*	2800.00 BBL
Manufacturer	TARSCO	*Operator ID*	T-330
Model		*Serial Number*	3546-1
Location Note	Newlove Lease		
Device Description	25' dia. (490.87 SF) x 32' ht.		

18.2 Steam Generator #1

Device ID #	**109530**	***Device Name***	**Steam Generator #1**
Rated Heat Input		*Physical Size*	62.50 MMBtu/Hour
Manufacturer	BYIS Manuf	*Operator ID*	SG-100
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Generator design: 1160 psig @ 564F Burner is North American Mfg Model 4211-24G-LE ultra low NOx design with a Rosemount World Class 3000 excess O2 trim control and flue gas recirculation (FGR).		

18.3 Steam Generator #2

Device ID #	**109485**	***Device Name***	**Steam Generator #2**
Rated Heat Input		*Physical Size*	62.50 MMBtu/Hour
Manufacturer		*Operator ID*	SG-300
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Generator design: 1160 psig @ 564F Burner is North American Mfg Model 4211-24G-LE ultra low NOx design with a Rosemount World Class 3000 excess O2 trim control and flue gas recirculation (FGR).		

18.4 Steam Generator SG-400

Device ID #	**114798**	***Device Name***	**Steam Generator SG-400**
Rated Heat Input	62.500 MMBtu/Hour	*Physical Size*	
Manufacturer	Fives North American	*Operator ID*	SG-400
Model	NA-4213-GL	*Serial Number*	
Location Note			
Device Description	Steam Generator to generate steam for oil/gas well injection enhancement purposes.		

18.5 Diatomite Gas Gathering Compressor #2

Device ID #	**113508**	***Device Name***	**Diatomite Gas Gathering Compressor #2**
Rated Heat Input		*Physical Size*	60.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	K-700B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.6 Diatomite Gas Gathering Compressor #1

Device ID #	**113507**	***Device Name***	**Diatomite Gas Gathering Compressor #1**
Rated Heat Input		*Physical Size*	60.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	K-700A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.7 Booster Compressor

Device ID #	**393045**	***Device Name***	**Booster Compressor**
Rated Heat Input		*Physical Size*	
Manufacturer	Ro-Flo	*Operator ID*	K-105
Model	211M	*Serial Number*	
Location Note			
Device Description			

18.8 Booster Compressor

Device ID #	**393044**	***Device Name***	**Booster Compressor**
Rated Heat Input		*Physical Size*	
Manufacturer	Ro-Flo	*Operator ID*	K-105
Model	211M	*Serial Number*	
Location Note			
Device Description			

18.9 Vapor Recovery Inlet Separator

Device ID #	**109495**	***Device Name***	**Vapor Recovery Inlet Separator**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-500
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		

18.10 H2S Removal Vessel

Device ID #	**109494**	***Device Name***	**H2S Removal Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer	PCL Ind Services	*Operator ID*	V-380B
Model		*Serial Number*	20162-02
Location Note	Newlove Lease		
Device Description	12' DIA x 30' Shell; 150 psig @ 550F		

18.11 H2S Removal Vessel

Device ID #	**109493**	***Device Name***	**H2S Removal Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer	PCL Ind Services	*Operator ID*	V-380A
Model		*Serial Number*	20162-01
Location Note	Newlove Lease		
Device Description	12' DIA x 30' Shell; 150 psig @ 550F		

18.12 Produced Gas Knockout Vessel

Device ID #	**109492**	***Device Name***	**Produced Gas Knockout Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer	PCL Ind Services	*Operator ID*	V-315
Model		*Serial Number*	20159-03
Location Note	Newlove Lease		
Device Description	2.5' DIA x 10.0' Shell; 150 psig @ 540F		

18.13 Three Phase Separator

Device ID #	**109491**	***Device Name***	**Three Phase Separator**
Rated Heat Input		*Physical Size*	
Manufacturer	PCL Ind Services	*Operator ID*	V-300
Model		*Serial Number*	20165-02
Location Note	Newlove Lease		
Device Description	8' DIA x 32' Shell; 150 psig @ 550F		

18.14 Three-Phase Separator

Device ID #	**393043**	***Device Name***	**Three-Phase Separator**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-600
Model		*Serial Number*	
Location Note			
Device Description	8.0' dia. x 32.0 ' length		

18.15 Gas Scrubbing Vessel

Device ID #	**115286**	***Device Name***	**Gas Scrubbing Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-665B
Model		*Serial Number*	
Location Note			
Device Description	- 6' by 12' seam to seam - maximum operating pressure at 150 psig and 200°F		

18.16 HP Relief Condensate Pump

Device ID #	**109465**	***Device Name***	**HP Relief Condensate Pump**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer	Tuthill	*Operator ID*	P-345
Model	GG 50	*Serial Number*	G15514
Location Note	Newlove Lease		
Device Description	38 gpm @ 60 ft TDH, 2" line, driver RPM = 1150		

18.17 Gas Scrubbing Vessel

Device ID #	**115285**	***Device Name***	**Gas Scrubbing Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-665A
Model		*Serial Number*	
Location Note			
Device Description	- 6' by 12' seam to seam - maximum operating pressure at 150 psig and 200°F		

18.18 Fuel Gas Scrubber

Device ID #	**109490**	***Device Name***	**Fuel Gas Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer	PCL Ind Services	*Operator ID*	V-115
Model		*Serial Number*	20159-01
Location Note	Newlove Lease		
Device Description	2' DIA x 7' Shell; 200 psig @ 200F		

18.19 Natural Gas Blending Skid

18.20 Wellheads 1-30

Device ID #	**109497**	***Device Name***	**Wellheads 1-30**
Rated Heat Input		*Physical Size*	30.00 Total Wells
Manufacturer		*Operator ID*	TBD
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.21 Wellheads 31-34

Device ID #	**112492**	***Device Name***	**Wellheads 31-34**
Rated Heat Input		*Physical Size*	4.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	These wells are not equipped with well cellars		

18.22 Wellheads 35-97

Device ID #	**393042**	***Device Name***	**Wellheads 35-97**
Rated Heat Input		*Physical Size*	63.00
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	New device: 393042		

18.23 VRU Condensate Pump

Device ID #	**109484**	***Device Name***	**VRU Condensate Pump**
Rated Heat Input		*Physical Size*	0.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-525B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Part of VRU		

18.24 VRU Condensate Pump

Device ID #	**109483**	***Device Name***	**VRU Condensate Pump**
Rated Heat Input		*Physical Size*	0.50 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-525A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Part of VRU		

18.25 Vapor Compressor

Device ID #	**109482**	***Device Name***	**Vapor Compressor**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-515B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	200 MSCFD @ 20psig; part of VRU		

18.26 Vapor Compressor

Device ID #	**109481**	***Device Name***	**Vapor Compressor**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-515A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	200 MSCFD @ 20psig; part of VRU		

18.27 H2S Removal Vessel Drain Pump

Device ID #	**109480**	***Device Name***	**H2S Removal Vessel Drain Pump**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-385B
Model	3196STX	*Serial Number*	
Location Note	Newlove Lease		
Device Description	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

18.28 Condensate Pump P-315A

Device ID #	**387350**	***Device Name***	**Condensate Pump P-315A**
Rated Heat Input		*Physical Size*	30.00 gal/Minute
Manufacturer		*Operator ID*	P-315A
Model		*Serial Number*	
Location Note			
Device Description			

18.29 Condensate Pump P-315B

Device ID #	**387351**	***Device Name***	**Condensate Pump P-315B**
Rated Heat Input		*Physical Size*	30.00 gal/Minute
Manufacturer		*Operator ID*	P-315B
Model		*Serial Number*	
Location Note			
Device Description			

18.30 H2S Removal Vessel Drain

Device ID #	**109479**	***Device Name***	**H2S Removal Vessel Drain**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-385A
Model	3196STX	*Serial Number*	727F462 2W2
Location Note	Newlove Lease		
Device Description	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

18.31 Main Condensate Pump #1

Device ID #	**113505**	***Device Name***	**Main Condensate Pump #1**
Rated Heat Input		*Physical Size*	3.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-702A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.32 Fugitive Hydrocarbon Components

18.32.1 Component Leak Paths

Device ID #	**114800**	***Device Name***	**Component Leak Paths**
Rated Heat Input		*Physical Size*	15703.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	SG400 + fugitives		

18.32.2 Component Leak Paths

Device ID #	**115279**	***Device Name***	**Component Leak Paths**
Rated Heat Input		*Physical Size*	1740.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	These CLP's are associated with the Gas Blending Skid.		

18.32.3 Fugitive Components - Correlation Equation Method

Device ID #	**109516**	***Device Name***	**Fugitive Components - Correlation Equation Method**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Emissions calc based on Correlation Equation Method; low leak BACT component design; LDAR thresholds; monthly inspection 3 Compressor Seals Screened 3996 Connectors Screened 1705 Flanges Screened 0 Open-Ended Lines Screened 720 Other Screened 18 Pump Seals Screened 1482 Valves Screened		

18.32.4 Fugitive Components

Device ID #	**387285**	***Device Name***	**Fugitive Components**
Rated Heat Input		*Physical Size*	1280.00 Component Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Correlation Equation Leakpaths Gas/Light Liquid 225 Valves 3 PRDs 9 Others 630 Connectors 410 Flanges 3 Pump Seals		

18.33 Vapor Recovery Discharge Scrubber

Device ID #	**109496**	***Device Name***	**Vapor Recovery Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-505
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		

18.34 Heat Exchangers

18.34.1 Produced Gas Shell & Tube Heat Exchanger

Device ID #	**109462**	***Device Name***	**Produced Gas Shell & Tube Heat Exchanger**
Rated Heat Input		*Physical Size*	
Manufacturer	Ohmstede	*Operator ID*	H-305
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.34.2 VRU Compressor Discharge Heat Exchanger - Fin Fan

Device ID #	**109464**	***Device Name***	**VRU Compressor Discharge Heat Exchanger - Fin Fan**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	H-510B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Part of VRU		

18.34.3 VRU Inlet Heat Exchanger - Fin Fan

Device ID #	**109463**	***Device Name***	**VRU Inlet Heat Exchanger - Fin Fan**
Rated Heat Input		*Physical Size*	5.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	H-510A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Part of VRU		

18.34.4 Produced Oil Heat Exchanger HX-637

Device ID #	**387284**	***Device Name***	**Produced Oil Heat Exchanger HX-637**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	HX-637
Model		*Serial Number*	
Location Note			
Device Description	13' 11" Height		

18.34.5 Produced Oil Heat Exchanger HX-636

Device ID #	**387283**	***Device Name***	**Produced Oil Heat Exchanger HX-636**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	HX-636
Model		*Serial Number*	
Location Note			
Device Description	7' 11" Height		

18.35 Produced Gas Condenser Air Cooler HX-306

Device ID #	**387282**	***Device Name***	**Produced Gas Condenser Air Cooler HX-306**
Rated Heat Input		*Physical Size*	10.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	HX-306
Model		*Serial Number*	
Location Note			
Device Description	11' 10" Height		

18.36 Pressure Vessel V-317

Device ID #	**387281**	***Device Name***	**Pressure Vessel V-317**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-317
Model		*Serial Number*	
Location Note			
Device Description	5' D x 14' H		

18.37 Pressure Vessel V-316

Device ID #	**387280**	***Device Name***	**Pressure Vessel V-316**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-316
Model		*Serial Number*	
Location Note			
Device Description	5' D x 14' H		

18.38 Main Condensate Pump #2

Device ID #	**113506**	***Device Name***	**Main Condensate Pump #2**
Rated Heat Input		*Physical Size*	3.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-702B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.39 Main Knockout Vessel

Device ID #	**113504**	***Device Name***	**Main Knockout Vessel**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	V-701
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	2 feet in diameter by 8 feet E/E		

18.40 Field Knockout Vessel Condensate Pump #2

Device ID #	**113501**	***Device Name***	**Field Knockout Vessel Condensate Pump #2**
Rated Heat Input		*Physical Size*	3.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	P-707
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	Serves Field Knock Vessel #2 at Pod 1.		

18.41 Field Knockout Vessel #2

Device ID #	**113500**	***Device Name***	**Field Knockout Vessel #2**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	V-703
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	2 feet in diameter by 8 feet E/E. Serves Pod 1.		

18.42 Mobile Sand Bin #1

Device ID #	**113481**	***Device Name***	**Mobile Sand Bin #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Rain for Rent	*Operator ID*	ME-690A
Model	25 Yard Turbo Vacuum Box	*Serial Number*	
Location Note	Newlove Lease		
Device Description	20 feet long by 7 feet wide by 5 feet deep, covered, vapor tight. Connected to vapor recovery when in service.		

18.43 Mobile Sand Bin #2

Device ID #	**113482**	***Device Name***	**Mobile Sand Bin #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Rain for Rent	*Operator ID*	ME-690B
Model	25 Yard Turbo Vacuum Box	*Serial Number*	
Location Note	Newlove Lease		
Device Description	20 feet long by 7 feet wide by 5 feet deep, covered, vapor tight. Connected to vapor recovery when in service.		

18.44 Sand Bin Pump #1

Device ID #	**113483**	***Device Name***	**Sand Bin Pump #1**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	P691A
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.45 Sand Bin Pump #2

Device ID #	**113484**	***Device Name***	**Sand Bin Pump #2**
Rated Heat Input		*Physical Size*	1.00 Installation
Manufacturer		*Operator ID*	P691B
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description			

18.46 Progauge AWT #2

Device ID #	**109680**	***Device Name***	**Progauge AWT #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Progauge	*Operator ID*	V-405
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	2' dia x 3' shell; 400 psig @ 400F		

18.47 Desander #1

Device ID #	**113478**	***Device Name***	**Desander #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Enerscope Systems Inc.	*Operator ID*	V-680
Model	ESI-0010	*Serial Number*	
Location Note	Newlove Lease		
Device Description	1300 - 2500 BPD, 63 inches long		

18.48 Progauge AWT #1

Device ID #	**109679**	***Device Name***	**Progauge AWT #1**
Rated Heat Input		*Physical Size*	
Manufacturer	Progauge	*Operator ID*	V-400
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	2' dia x 3' shell; 400 psig @ 400F		

18.49 Desander #2

Device ID #	**113479**	***Device Name***	**Desander #2**
Rated Heat Input		*Physical Size*	
Manufacturer	Enerscope Systems Inc.	*Operator ID*	V-685A
Model	ESI-0015	*Serial Number*	
Location Note	Newlove Lease		
Device Description	2100 - 3700 BPD, 63 inches long		

18.50 Condensate Vessel - Low Point Drain

Device ID #	**109678**	***Device Name***	**Condensate Vessel - Low Point Drain**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-310
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	1' dia x 3' shell; atm press		

18.51 Desander #3

Device ID #	**113480**	***Device Name***	**Desander #3**
Rated Heat Input		*Physical Size*	
Manufacturer	Enerscope Systems Inc.	*Operator ID*	V-685B
Model	ESI-0015	*Serial Number*	
Location Note	Newlove Lease		
Device Description	2100 - 3700 BPD, 63 inches long		

18.52 Free Gas Knockout Vessel

Device ID #	**113477**	***Device Name***	**Free Gas Knockout Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-670
Model		*Serial Number*	
Location Note	Newlove Lease		
Device Description	7'3" dia by 20 feet s/s.		

B EXEMPT EQUIPMENT

1 Feed Water Storage Tank

Device ID #	**109513**	***Device Name***	**Feed Water Storage Tank**
Rated Heat Input		*Physical Size*	6850.00 BBL
Manufacturer	United Ind Group	*Operator ID*	T-230
Model		*Serial Number*	150616
Part 70 Insig?	No	*District Rule Exemption:* 202.L.4 Water Cooling Towers/Ponds	
Location Note	Newlove Lease		
Device Description	Part of VSEP (water conditioning system); 35' DIA x 40' HIGH		

2 Feed Water Heat Exchanger

Device ID #	**109500**	***Device Name***	**Feed Water Heat Exchanger**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	H-120
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note	Newlove Lease		
Device Description	Part of Steam Generator (water conditioning system) preheats feed water using steam condensate.		

3 Intermediate Tank

Device ID #	**109511**	***Device Name***	**Intermediate Tank**
Rated Heat Input		*Physical Size*	450.00 BBL
Manufacturer	United Ind Group	*Operator ID*	T-215
Model		*Serial Number*	150620
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description	Part of VSEP (water conditioning system); 12' 8"DIA x 20' HIGH		

4 Soft Water Heat Exchanger HX-650

Device ID #	**387286**	***Device Name***	**Soft Water Heat Exchanger HX-650**
Rated Heat Input		*Physical Size*	20.00 Horsepower (Electric Motor)
Manufacturer		*Operator ID*	HX-650
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Not in Hydrocarbon Service		

5 Steam Sample Cooler

Device ID #	**109515**	***Device Name***	**Steam Sample Cooler**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	H-102
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description			

6 Supply Water Tank

Device ID #	**109510**	***Device Name***	**Supply Water Tank**
Rated Heat Input		*Physical Size*	6850.00 BBL
Manufacturer	United Ind Group	*Operator ID*	T-210
Model		*Serial Number*	150615
Part 70 Insig?	No	*District Rule Exemption:* 202.L.11 Aerobic Wastewater Treatment Equipment	
Location Note	Newlove Lease		
Device Description	Part of SAC/WAC (water conditioning system); 35' DIA x 40' HIGH This Device No. includes T-280, T-290 and P-280		

7 Steam Sample Cooler

Device ID #	**109514**	***Device Name***	**Steam Sample Cooler**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	H-101
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description			

8 Reject Water Holding Tank

Device ID #	**109512**	***Device Name***	**Reject Water Holding Tank**
Rated Heat Input		*Physical Size*	1340.00 BBL
Manufacturer	United Ind Group	*Operator ID*	T-220
Model		*Serial Number*	150618
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description	Part of SAC/WAC (water conditioning system); 20' DIA x 24' HIGH		

9 Nutshell Filter #2

Device ID #	**112559**	***Device Name***	**Nutshell Filter #2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model	FDB-7P	*Serial Number*	20045
Part 70 Insig?	No	*District Rule Exemption:* 202.L.15 Portable Steam Clean/Pressure Wash Equip	
Location Note			
Device Description	Part of SAC/WAC (water conditioning system)		

10 Nutshell Filter #1

Device ID #	**112558**	***Device Name***	**Nutshell Filter #1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model	FDB-7P	*Serial Number*	20173
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note			
Device Description	Part of SAC/WAC (water conditioning system)		

11 High Pressure Feed Water Pump

Device ID #	**109502**	***Device Name***	**High Pressure Feed Water Pump**
Rated Heat Input		*Physical Size*	
Manufacturer	Wheatley	*Operator ID*	P-100
Model	Q4240	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.4 Water Cooling Towers/Ponds	
Location Note	Newlove Lease		
Device Description	Part of Steam Generator water conditioning system. This Device No. incluldes: P-221 A&B (SAC/WAC Feed Pumps) P-222 A&B (SAC/WAC Backwash Pumps) P-231 A&B (Brine Fill) P-260 (Brine Transfer Pump) P-261 Brine Inj. Pump)		

12 Feed Water Transfer Pump

Device ID #	**109508**	***Device Name***	**Feed Water Transfer Pump**
Rated Heat Input		*Physical Size*	40.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-235B
Model	3196MTX	*Serial Number*	727F463 1W3
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description	Part of SAC/WAC (water conditioning system)		

13 RO Feed Cooling Fin Fan

Device ID #	**109501**	***Device Name***	**RO Feed Cooling Fin Fan**
Rated Heat Input		*Physical Size*	
Manufacturer	GEA Rainey	*Operator ID*	H-245
Model	1-1030T108	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.13 H2O Well/Filtration Sys/Reverse Osmosis	
Location Note	Newlove Lease		
Device Description	Part of SAC/WAC (water conditioning system) This Device No. includes: P-281 A&B (T-280 Skim Pumps) P-291 A&B (Reset Pumps) P-620 A&D (Heat Ex.Circ. Pumps) P-300 P-400		

14 Feed Water Transfer Pump

Device ID #	**109507**	***Device Name***	**Feed Water Transfer Pump**
Rated Heat Input		*Physical Size*	40.00 Horsepower (Electric Motor)
Manufacturer	Goulds	*Operator ID*	P-235A
Model	3196MTX	*Serial Number*	727F464 2W2
Part 70 Insig?	No	*District Rule Exemption:* 202.L.4 Water Cooling Towers/Ponds	
Location Note	Newlove Lease		
Device Description	Part of SAC/WAC (water conditioning system) This Device No. includes P-212 A&B IGF feed pump) P-207A&B (Recirc. pump) P-206 A&B (Nutshell 1&2 feed) P-216 A&B (Chem. transfer to V-380B)		

10.5 Permitted Wells

Pacific Coast Energy Company LP

Diatomite Wells (Steam Injection)

Well Count = 97

Formatted API #	Well #	Well Status	Pool WellTypes	Section	Township	Range	Latitude	Longitude
083-00075	76	I	OG, SC	25	09N	34W	34.83248	-120.4054382
083-00956	97	I	OG, SC	30	09N	33W	34.83007	-120.4017796
083-22434	301	A	OG, SC	25	09N	34W	34.8258	-120.405321
083-22453	25-83D	I	OG, SC	25	09N	34W	34.83276	-120.4055239
083-22454	25-83F	I	OG, SC	25	09N	34W	34.83281	-120.4055316
083-22455	25-83E	I	OG, SC	25	09N	34W	34.83274	-120.4055117
083-22457	25-83J	I	OG, SC	25	09N	34W	34.8327	-120.4055052
083-22458	25-83M	I	OG, SC	25	09N	34W	34.83244	-120.4054157
083-22459	25-83N	I	OG, SC	25	09N	34W	34.83233	-120.4053855
083-22460	25-83K	I	OG, SC	25	09N	34W	34.83242	-120.4054121
083-22461	25-83L	I	OG, SC	25	09N	34W	34.83239	-120.4053932
083-22463	25-83P	I	OG, SC	25	09N	34W	34.83236	-120.4053814
083-22551	25-83S	I	OG, SC	25	09N	34W	34.83163	-120.40524
083-22552	25-83T	I	OG, SC	25	09N	34W	34.8316	-120.405244
083-22553	25-83U	I	OG, SC	25	09N	34W	34.83164	-120.405187
083-22581	209	I	OG, SC	25	09N	34W	34.83157	-120.4045992
083-22582	210	I	OG, SC	25	09N	34W	34.83122	-120.4046823
083-22583	25-83W	I	OG, SC	25	09N	34W	34.83151	-120.4046089
083-22585	207	A	OG, SC	25	09N	34W	34.82601	-120.4062087
083-22586	206	A	OG, SC	25	09N	34W	34.82669	-120.4044199
083-22593	211	A	OG, SC	25	09N	34W	34.8254	-120.405138
083-22596	214	A	OG, SC	25	09N	34W	34.82494	-120.4047135
083-22598	226	A	OG, SC	25	09N	34W	34.82537	-120.4051386
083-22606	216	I	OG, SC	25	09N	34W	34.8258	-120.405385
083-22607	217	A	OG, SC	25	09N	34W	34.82571	-120.4057697
083-22609	219	A	OG, SC	25	09N	34W	34.82649	-120.4043545
083-22610	220	A	OG, SC	25	09N	34W	34.82624	-120.4042984
083-22611	221	A	OG, SC	25	09N	34W	34.82619	-120.4042939
083-22612	225	A	OG, SC	25	09N	34W	34.82622	-120.4043015
083-22614	222	A	OG, SC	25	09N	34W	34.82685	-120.4050053
083-22616	224	A	OG, SC	25	09N	34W	34.82651	-120.4043559
083-22617	227	A	OG, SC	25	09N	34W	34.82692	-120.4054442
083-22618	228	A	OG, SC	25	09N	34W	34.8269	-120.4053962
083-22619	229	A	OG, SC	25	09N	34W	34.82602	-120.4062556
083-22620	230	A	OG, SC	25	09N	34W	34.82586	-120.4064478
083-22621	231	A	OG, SC	25	09N	34W	34.82582	-120.406436
083-22622	232	I	OG, SC	25	09N	34W	34.82569	-120.4057886
083-22625	233	A	OG, SC	25	09N	34W	34.82527	-120.405073
083-22626	234	A	OG, SC	25	09N	34W	34.82523	-120.405052
083-22627	235	A	OG, SC	25	09N	34W	34.8258	-120.4063849
083-22643	236	A	OG, SC	25	09N	34W	34.82355	-120.40909
083-22668	237	A	OG, SC	25	09N	34W	34.8249	-120.40483
083-22669	238	A	OG, SC	25	09N	34W	34.82579	-120.406299
083-22670	241	A	OG, SC	25	09N	34W	34.82619	-120.4042471
083-22671	243	A	OG, SC	25	09N	34W	34.82628	-120.40432

083-22672	252	A	OG, SC	25	09N	34W	34.8273	-120.405183
083-22673	260	A	OG, SC	25	09N	34W	34.82729	-120.405926
083-22674	269	A	OG, SC	25	09N	34W	34.82623	-120.406268
083-22675	2103	A	OG, SC	25	09N	34W	34.82377	-120.408814
083-22676	2110	A	OG, SC	25	09N	34W	34.82382	-120.409198
083-22677	2116	A	OG, SC	25	09N	34W	34.82361	-120.409359
083-22678	2119	A	OG, SC	25	09N	34W	34.82357	-120.409168
083-22679	2123	A	OG, SC	25	09N	34W	34.82356	-120.408851
083-22683	242	A	OG, SC	25	09N	34W	34.8262	-120.4042021
083-22690	244	A	OG, SC	25	09N	34W	34.82491	-120.40477
083-22698	245	A	OG, SC	25	09N	34W	34.82662	-120.4043856
083-22699	247	A	OG, SC	25	09N	34W	34.82729	-120.404939
083-22700	251	A	OG, SC	25	09N	34W	34.82732	-120.405027
083-22701	267	A	OG, SC	25	09N	34W	34.82705	-120.405872
083-22702	268	A	OG, SC	25	09N	34W	34.82704	-120.405815
083-22703	271	A	OG, SC	25	09N	34W	34.82621	-120.406378
083-22704	273	A	OG, SC	25	09N	34W	34.82604	-120.406389
083-22705	274	A	OG, SC	25	09N	34W	34.82602	-120.406282
083-22707	240	A	OG, SC	25	09N	34W	34.82507	-120.404891
083-22726	248	A	OG, SC	25	09N	34W	34.82723	-120.405044
083-22727	253	A	OG, SC	25	09N	34W	34.8273	-120.405206
083-22729	261	A	OG, SC	25	09N	34W	34.82731	-120.406023
083-22730	266	A	OG, SC	25	09N	34W	34.82707	-120.405926
083-22731	275	A	OG, SC	25	09N	34W	34.82516	-120.405001
083-22732	283	A	OG, SC	25	09N	34W	34.82685	-120.405056
083-22733	250	A	OG, SC	25	09N	34W	34.82727	-120.405092
083-22734	254	A	OG, SC	25	09N	34W	34.82731	-120.40527
083-22735	257	A	OG, SC	25	09N	34W	34.82732	-120.405326
083-22736	263	A	OG, SC	25	09N	34W	34.82721	-120.40615
083-22737	264	A	OG, SC	25	09N	34W	34.82718	-120.406143
083-22738	265	A	OG, SC	25	09N	34W	34.82714	-120.406138
083-22741	2102	A	OG, SC	25	09N	34W	34.82379	-120.408946
083-22742	2107	A	OG, SC	25	09N	34W	34.82379	-120.409151
083-22743	2108	A	OG, SC	25	09N	34W	34.82379	-120.409191
083-22744	2112	A	OG, SC	25	09N	34W	34.8238	-120.409395
083-22745	2113	A	OG, SC	25	09N	34W	34.8238	-120.409433
083-22751	2115	A	OG, SC	25	09N	34W	34.82359	-120.409284
083-22752	2117	I	OG, SC	25	09N	34W	34.82359	-120.409244
083-22753	2120	I	OG, SC	25	09N	34W	34.82356	-120.409131
083-22754	2124	A	OG, SC	25	09N	34W	34.82363	-120.408757
083-22755	2125	A	OG, SC	25	09N	34W	34.82361	-120.408803
083-22456	25-83G	I	OG	25	09N	34W	34.83273	-120.4055082
083-22462	25-83O	I	OG	25	09N	34W	34.83238	-120.4053963
083-22573	401	I	OG	25	09N	34W	34.83307	-120.4058138
083-22574	402	I	OG	25	09N	34W	34.83306	-120.4058634
083-22577	401P	I	OG	25	09N	34W	34.83106	-120.4048472
083-22578	402P	I	OG	25	09N	34W	34.83038	-120.4051525
083-22613	401P-1	I	OG	25	09N	34W	34.83106	-120.4048549
083-22706	239	A	OG	25	09N	34W	34.82522	-120.405059
083-22725	246	A	OG	25	09N	34W	34.82657	-120.404368
083-22728	258	A	OG	25	09N	34W	34.82733	-120.405373
083-22695	403	I	OG	25	09N	34W	34.82543	-120.405139

10.6 Fee Statement

air pollution control district
SANTA BARBARA COUNTY

FEE STATEMENT
PT-70/Reeval No. 08240 - R11
FID: 03321 Newlove Lease / 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
386204	Fugitive Hydrocarbon Components	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
003042	Oil and Gas Wellheads	A1.a	78.000	73.54	Per equipment	No	1	1.000	5,736.12	0.00	0.00	5,736.12
002974	Crude Oil Storage Tank	A6	42.000	4.22	Per 1000 gallons	No	1	1.000	177.24	0.00	0.00	177.24
394720	Wash Tank	A6	126.000	4.22	Per 1000 gallons	No	1	1.000	531.72	0.00	0.00	531.72
109949	Wash Tank	A6	126.000	4.22	Per 1000 gallons	No	1	1.000	531.72	0.00	0.00	531.72
388303	Wash Tank	A6	126.000	4.22	Per 1000 gallons	No	1	1.000	531.72	0.00	0.00	531.72
107475	Wastewater Tank	A6	420.000	4.22	Per 1000 gallons	No	1	1.000	1,772.40	0.00	0.00	1,772.40
110332	Wastewater Tank	A6	42.000	4.22	Per 1000 gallons	No	1	1.000	177.24	0.00	0.00	177.24
101173	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101174	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101175	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101184	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101176	Pit Pumps	A2	7.500	38.13	Per total rated hp	No	2	1.000	571.95	0.00	0.00	571.95
101177	Spill Catch Pan	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101178	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101185	Wastewater Pit	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113871	Vacuum Truck Washout Pit #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113872	Vacuum Truck Washout Pit #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101181	Charge Pump	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
101182	Sample Pump	A2	1.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
101183	Shipping Pump	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
101186	Weigh Meters	A1.a	1.000	73.54	Per equipment	No	8	1.000	588.32	0.00	0.00	588.32

101187	Gas/Liquid Separators	A1.a	1.000	73.54	Per equipment	No	4	1.000	294.16	0.00	0.00	294.16
114716	Gas/Liquid Separator	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101189	Blowdown Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
101190	Blowdown Vessel Blowcase	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
107854	Condensate Storage Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
112557	Vapor Recovery System	A2	15.000	38.13	Per total rated hp	No	1	1.000	571.95	0.00	0.00	571.95
112817	Automatic Well Tester	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109470	Oil Tank Battery Sump Pump	A2	2.000	38.13	Per total rated hp	No	1	1.000	76.26	0.00	0.00	76.26
109471	Produced Water Transfer Pump	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
109472	LACT Charge Pump	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
109473	Sample Pump	A2	1.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
109474	Produced Water Transfer Pump	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
109475	LACT Charge Pump	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
109476	Reject Tank Pump	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
109477	Reject Tank Pump	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
109478	Oil Pan Drain Pump	A2	1.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
113142	Hydrogen Sulfide Scrubber	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113485	Crude Oil Loading Rack	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
386203	Vapor Recovery Unit	A2	15.000	38.13	Per total rated hp	No	1	1.000	571.95	0.00	0.00	571.95
109488	Crude Oil Storage Tank	A6	88.200	4.22	Per 1000 gallons	No	1	1.000	372.20	0.00	0.00	372.20
109489	Crude Oil Storage Tank	A6	88.200	4.22	Per 1000 gallons	No	1	1.000	372.20	0.00	0.00	372.20
109487	Wash Tank	A6	230.000	4.22	Per 1000 gallons	No	1	1.000	970.60	0.00	0.00	970.60
109536	Wash Tank	A6	230.000	4.22	Per 1000 gallons	No	1	1.000	970.60	0.00	0.00	970.60
113561	Closed Drain Tank	A6	4.200	4.22	Per 1000 gallons	Min	1	1.000	73.07	0.00	0.00	73.07

109486	Produced Water Tank	A6	117.600	4.22	Per 1000 gallons	No	1	1.000	496.27	0.00	0.00	496.27
109530	Steam Generator SG-100	A3	62.500	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
109485	Steam Generator SG-300	A3	62.500	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
114798	Steam Generator SG-400	A3	62.500	551.72	Per 1 million Btu input	Max	1	1.000	7,382.27	0.00	0.00	7,382.27
113508	Diatomite Gas Gathering Compressor #2	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
113507	Diatomite Gas Gathering Compressor #1	A2	60.000	38.13	Per total rated hp	No	1	1.000	2,287.80	0.00	0.00	2,287.80
393045	Booster Compressor	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
393044	Booster Compressor	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109495	Vapor Recovery Inlet Separator	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109494	H2S Removal Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109493	H2S Removal Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109492	Produced Gas Knockout Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109491	Three Phase Separator	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
393043	Three-Phase Separator	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
115286	Gas Scrubbing Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109465	HP Relief Condensate Pump	A2	5.000	38.13	Per total rated hp	No	1	1.000	190.65	0.00	0.00	190.65
115285	Gas Scrubbing Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109490	Fuel Gas Scrubber	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109497	Wellheads 1-30	A1.a	30.000	73.54	Per equipment	No	1	1.000	2,206.20	0.00	0.00	2,206.20
112492	Wellheads 31-34	A1.a	4.000	73.54	Per equipment	No	1	1.000	294.16	0.00	0.00	294.16
393042	Wellheads 35-97	A1.a	63.000	73.54	Per equipment	No	1	1.000	4,633.02	0.00	0.00	4,633.02
109484	VRU Condensate Pump	A2	0.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
109483	VRU Condensate Pump	A2	0.500	38.13	Per total rated hp	Min	1	1.000	73.07	0.00	0.00	73.07
109482	Vapor Compressor	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60

109481	Vapor Compressor	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
109480	H2S Removal Vessel Drain Pump	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
387350	Condensate Pump P-315A	A2	5.000	38.13	Per total rated hp	No	1	1.000	190.65	0.00	0.00	190.65
387351	Condensate Pump P-315B	A2	5.000	38.13	Per total rated hp	No	1	1.000	190.65	0.00	0.00	190.65
109479	H2S Removal Vessel Drain	A2	20.000	38.13	Per total rated hp	No	1	1.000	762.60	0.00	0.00	762.60
113505	Main Condensate Pump #1	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
114800	Component Leak Paths	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109516	Fugitive Components - Correlation Equation Method	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
387285	Fugitive Components	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109496	Vapor Recovery Discharge Scrubber	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109462	Produced Gas Shell & Tube Heat Exchanger	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109464	VRU Compressor Discharge Heat Exchanger - Fin Fan	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109463	VRU Inlet Heat Exchanger - Fin Fan	A2	5.000	38.13	Per total rated hp	No	1	1.000	190.65	0.00	0.00	190.65
387284	Produced Oil Heat Exchanger HX-637	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
387283	Produced Oil Heat Exchanger HX-636	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
387282	Produced Gas Condenser Air Cooler HX-306	A2	10.000	38.13	Per total rated hp	No	1	1.000	381.30	0.00	0.00	381.30
387281	Pressure Vessel V-317	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
387280	Pressure Vessel V-316	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113506	Main Condensate Pump #2	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
113504	Main Knockout Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113501	Field Knockout Vessel Condensate Pump #2	A2	3.000	38.13	Per total rated hp	No	1	1.000	114.39	0.00	0.00	114.39
113500	Field Knockout Vessel #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113481	Mobile Sand Bin #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113482	Mobile Sand Bin #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54

113483	Sand Bin Pump #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113484	Sand Bin Pump #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109680	Progauge AWT #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113478	Desander #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109679	Progauge AWT #1	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113479	Desander #2	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
109678	Condensate Vessel - Low Point Drain	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113480	Desander #3	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
113477	Free Gas Knockout Vessel	A1.a	1.000	73.54	Per equipment	No	1	1.000	73.54	0.00	0.00	73.54
	Device Fee Sub-Totals =								**$60,565.95**	**$0.00**	**$0.00**	
	Device Fee Total =											**$60,565.95**

Permit Fee

Fee Based on Devices **$60,565.95**

Fee Statement Grand Total = $60,565

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.