

**PERMIT TO OPERATE 8240-R8  
and  
PART 70 RENEWAL OPERATING PERMIT 8240**

**PACIFIC COAST ENERGY COMPANY LP  
ORCUTT HILL STATIONARY SOURCE  
NEWLOVE LEASE**

**ORCUTT HILL OILFIELD  
SANTA BARBARA COUNTY, CALIFORNIA**

**OPERATOR**

**Pacific Coast Energy Company LP**

**OWNERSHIP**

**Pacific Coast Energy Company LP**

**Santa Barbara County  
Air Pollution Control District**

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

**JUN 15 2012**

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## ABBREVIATIONS/ACRONYMS

AP-42	USEPA's <i>Compilation of Emission Factors</i>
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 <sub>2</sub> S	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 <sub>2</sub>	oxygen
OCS	outer continental shelf
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*). The County is designated as an ozone nonattainment area for both the state and federal ambient air quality standards. The County is also designated a nonattainment area for the state PM<sub>10</sub> ambient air quality standard.

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 fourth renewal of the Part 70 permit, and may include additional applicable requirements and associated compliance assurance conditions. This permit includes the modifications (Diatomite Project) at the Newlove lease that were permitted under PTO 12084. The Newlove Lease is a part of the Pacific Coast Energy Orcutt Hill Stationary Source, which is a major source for VOC<sup>1</sup>, NO<sub>x</sub> 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 permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Next, 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.

Tailoring Rule. 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 are being updated to incorporate this revised definition and greenhouse emission totals for applicable emissions units. Greenhouse gas emissions from combustion sources have been calculated and included in the emission tables of this permit.

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<sup>1</sup> 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 (Pacific Coast Energy) which occurred in December 2011.

<b>Date of Transfer</b>	<b>New Owner</b>	<b>New Operator</b>
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<sup>2</sup>. Figure 1.1 shows the relative location of the facility within the county.

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<sup>2</sup> District Rule 102, Definition: "Northern Zone"

# PACIFIC COAST ENERGY - ORCUTT HILL STATIONARY SOURCE

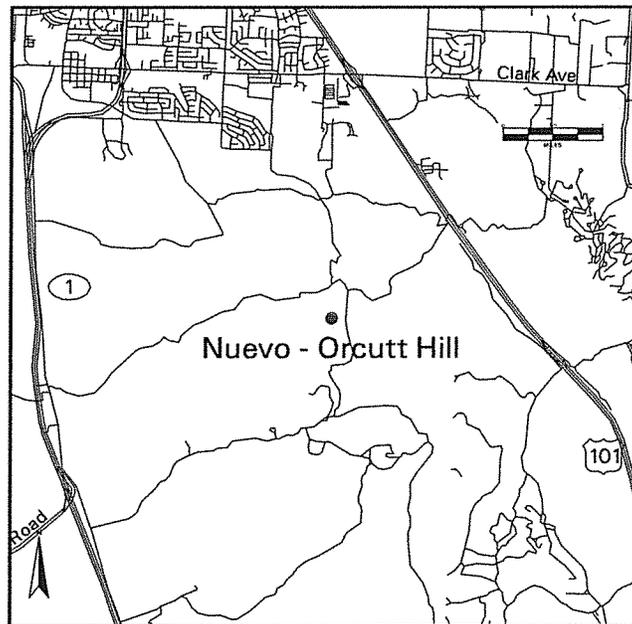
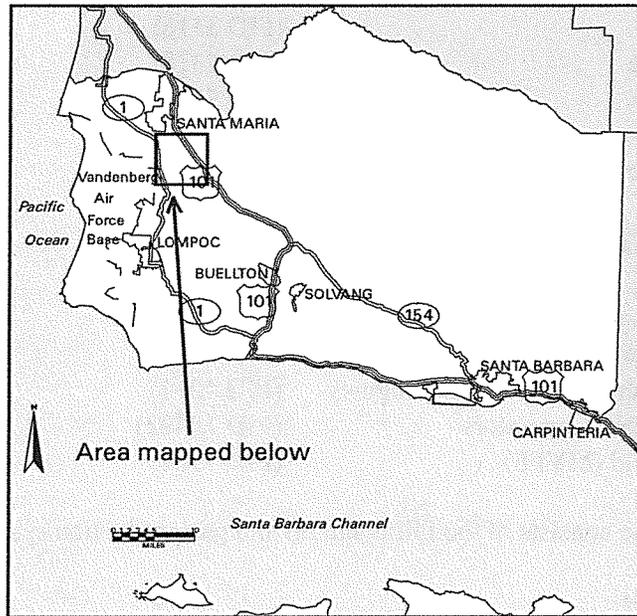


Figure 1.1 Location Map for the Newlove Lease

The *Pacific Coast Energy 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 one hundred thirty wells on the Newlove Lease. Ninety-six wells are produced without steam enhancement. Thirty-four wells are part of the Diatomite project, which uses steam injection to enhance oil production. Oil produced by the diatomite Project is not commingled with other oil produced from the lease.

Electric motors or internal combustion engines (permitted under PTO 8039) drive the wells. Production from the conventional 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. The 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.

Well steaming for the Diatomite Project 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.

- 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 of the Newlove Lease.

**Table 1.1**  
**New Source Review Overview**

<b>Permit Number</b>	<b>Issuance Date</b>	<b>Permitted Modification</b>
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 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 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 12084-03	11/05/2010	Modify Phase 2 of Diatomite Project.
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 13141	08/26/2009	Permit 4 Diatomite Project 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 <sub>2</sub> S Scrubber
ATC 13513	11/04/2010	Install Crude Oil Loading Rack

### **1.3 Emission Sources**

The emissions from the Newlove Lease come from oil and gas wells and their associated cellars, 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 non-Diatomite operations include:

- Ninety-six (96) 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
- Seven (7) wastewater pits
- One (1) spill catch pan
- Vacuum Truck Washout Pits, Fugitive emission components in gas/liquid hydrocarbon service
- Crude Oil Loading Rack

Diatomite Project:

- Thirty-four (34) oil and gas wells
- One (1) 62.5 MMBtu/hr steam generator (plus one additional steam generator permitted under FID 10482)
- One (1) wash tank
- One (1) crude storage tank
- One (1) reject tank
- One (1) produced water tank
- Two (2) Sand Bins
- Fugitive emission components in gas/liquid hydrocarbon service.

A list of all permitted equipment is provided in Section 10.5.

#### **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:

- An 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 steam generator is equipped with ultra low-NO<sub>x</sub> burners, automatic excess O<sub>2</sub> trim controllers and exhaust gas recirculation. The steam generator emissions (at standard conditions and corrected to 3% O<sub>2</sub>) is be limited to 9 ppmv of NO<sub>x</sub>, 8.5 ppmv of ROC and 27 ppmv of CO. The NO<sub>x</sub> and ROC limits represent BACT. The CO limit is based on Pacific Coast Energy's application. These limits have been verified through source testing.
- The steamed wells will not be "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).

- 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.
- A SulfaTreat System serving gas produced from the Diatomite project serves as the primary emission controls for the H<sub>2</sub>S concentrations in the Diatomite produced gas. The highest expected H<sub>2</sub>S concentration in untreated production gas is 20,000 ppm<sub>v</sub>. 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. An H<sub>2</sub>S scrubber installed at the K-4 compressor station serves non-Diatomite produced gas prior to delivery to the Orcutt Hill compressor station.
- The steam generator is required to maintain a combustion section temperature at a minimum of 1275 deg F and operate at a combustion residence time of no less than 4.88 seconds to provide greater than 90% percent destruction 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 Orcutt Hill stationary source triggers offsets for 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. (*see Sections 4.10 and 5.5*).
- 1.6.9 Responsible Official: The designated responsible official and his mailing address is:

Chris Williamson  
Senior Vice President of Operations  
Pacific Coast Energy Company  
515 S. Flower Street; Suite 4800  
Los Angeles, CA 90071

## 2.0 Process Description

### 2.1 Process Summary

#### 2.1.1 Overview

- a) *Production Field*: Oil, water, and gas are produced from one-hundred thirty wells on the Newlove Lease. Ninety-six wells are produced without steam enhancement. Thirty-four wells are part of the Diatomite project, which uses steam injection to enhance oil production. Twenty-nine of the wells are equipped with a cellar that measures approximately six feet by six feet. The Diatomite Project wells are not equipped with well cellars. Historically, the API gravity of the crude oil is 25 with a gas oil ratio of 501 scf/bbl. Electric motors and internal combustion engines (PTO 8039) provide power to the pumping units.
- b) *Diatomite*: The Diatomite Project wells utilize steam injected into the oil bearing reservoir, reducing the viscosity of the oil and enhancing its recoverability. The Diatomite Project is being constructed in two phases. The first phase (Phase 1), already installed, includes one 62.5 MMBtu/hr Steam Generator, two well pods, a tank farm, and a water polishing system. The second phase (Phase 2) permitted under ATC 12084 will install two 62.5 MMBtu/hr steam generators, four well pods, and a tank farm. Each well pod will have up to 16 wells each. Two of these wells are previously permitted wells as part of the original Newlove field operations. Phase 2 is being installed as Phase 2a and Phase 2b. Phase 2a was installed under ATC 12084-03. PTO 12084 has been incorporated into this permit renewal and includes only a small portion of the tank battery facilities.

#### 2.1.2 Gas, Oil, and Water Separation

- a) *Field*: The produced oil, water and gas are piped to a central tank battery where it passes through a gas/liquid separator. The liquids from the separators are sent to the wash tanks where oil and water are separated. The oil is piped to the crude tanks and the water is sent to the wastewater tanks.

#### 2.1.3 Vapor Recovery

- a) *Field*: The tanks are connected to a vapor recovery system (VRS) that is equipped with a compressor driven by a 10 hp electric motor. The VRS is assumed to have a 95-percent control efficiency based on the assumptions in ATCs 6416 and 9248.
- b) *Diatomite*: 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 generator or the field gas gathering system.

#### 2.1.4 Oil and Gas Metering and Shipping

- a) *Field*: Oil from the crude storage tank is metered through a LACT metering system and is shipped from the lease via pipeline. The vapors collected by the vapor recovery system and gas from the gas gathering system are piped to the Orcutt Hill Compressor Plant (PTO 8174).

- 2.1.5 Wastewater Disposal: 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 on the Newlove Lease.

## 2.3 Maintenance/Degreasing Activities

- 2.3.1 Paints and Coatings: Intermittent surface coating operations are conducted throughout the facility for occasional structural and equipment maintenance needs, including architectural coating. Normally only touch-up and equipment labeling or tagging is performed. All architectural coatings used 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 on the Newlove Lease for daily operations. Usage includes cold solvent degreasing and wipe cleaning with rags.

## 2.4 Planned Process Turnarounds

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

## 2.5 Other Processes

- 2.5.1 Pits and Sumps: The 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 10.5 for a complete listing of all permitted equipment.

## 3.0 Regulatory Review

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

### 3.1 Rule Exemptions Claimed



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

- **Section D.6 De Minimis Exemptions**: This section requires Pacific Coast Energy 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 Based on facility logs, as of February 2012, the *de minimis* total at the Pacific Coast Energy Orcutt Hill Stationary Source is 15.02 lbs ROC/day
- **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<sup>o</sup> 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 Diatomite Project petroleum storage and processing tanks were not required to submit a Degassing Plan 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.



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 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.

Subpart Dc applies to new steam generators and boilers rated from 10,000 to 100,000 MMBtu/hr. The SO<sub>2</sub> 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. Because the steam generator subject to this permit only fires natural gas, it is not subject to any emission limits by 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. Nuevo Energy Company submitted information 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. Nuevo verified that this lease does not store crude oil with an API gravity of 40° or greater, and does not have a glycol reboiler. On March 27, 2002 the District issued a letter to Nuevo agreeing with this exemption.

In addition, the District has verified that the Diatomite Project Phase 1 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 Phase 1 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. The District will evaluate the MACT applicability for Phase 2 of the project if that phase is pursued by Pacific Coast Energy.

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 filed on December 1, 2011. 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.

### **3.4 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 210 - Fees: Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C). Attachment 10.3 presents the fee calculations for the reevaluated permit.

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

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

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

Rule 304 (Particulate Matter - Northern Zone): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions. 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<sub>2</sub> (by volume) and 0.3 gr/scf (at 12% CO<sub>2</sub>) respectively. It is highly unlikely that gas fired engines will exceed these standards.

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H<sub>2</sub>S 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<sub>2</sub>S) {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 was revised on September 20, 2010 to fulfill the commitment in the 2001 and 2004 Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These proposed provisions apply to solvent cleaning machines and wipe cleaning

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

Rule 323 - Architectural Coatings: This rule sets standards for the application of surface coatings. The primary coating standard that will apply to the lease is for Industrial Maintenance Coatings which has a limit of 250 grams ROC per liter of coating, as applied. The permittee will be required to comply with the Administrative requirements under Section F for each container on the lease.

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 shall 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 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 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 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 was adopted January 20, 2011 to incorporate 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. Multiple routine and SCDP inspections have been conducted at this facility since the previous permit renewal. Listed below in section 3.5.2 are the enforcement actions that were issued during these inspections.

Variations: Since the previous permit renewal 1 variance has been granted. The variance is listed in Table 3.0-1 below:

**Table 3.0-1  
Variations Granted**

Case No	Date	From
10-13-E	06/09/2010	Rule 325.D.1.a due to VRS Failure.

3.5.2 Violations: Since the previous permit renewal, four Notices of Violation (NOV) have been issued. These NOV's are listed in Table 3.0-2 below:

**Table 3.0-2  
Notices of Violation Issued**

Type	Number	Issued	Description
NOV	9547	02/24/2010	Exceedance of fuel gas H2S limit.
NOV	9548	02/24/2010	Failure to conduct fuel gas sampling.
NOV	9563	08/03/2010	Leaking valve.
NOV	9696	12/17/2010	Operation of three Baker Tanks without a permit.

3.5.3 Significant Historical Hearing Board Actions/NOV's: There have been no 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
<u>RULE 101:</u> Compliance by Existing Installations	All emission units	Emission of pollutants
<u>RULE 102:</u> Definitions	All emission units	Emission of pollutants
<u>RULE 103:</u> Severability	All emission units	Emission of pollutants
<u>RULE 201:</u> Permits Required	All emission units	Emission of pollutants
<u>RULE 202:</u> 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
<u>RULE 203:</u> Transfer	All emission units	Change of ownership
<u>RULE 204:</u> Applications	All emission units	Addition of new equipment of modification to existing equipment.

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications	All emission units	Applicability of relevant Rules
<u>RULE 208</u> : Action on Applications - Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.
<u>RULE 304</u> : Particulate matter – Northern Zone	Each PM Source	Emission of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustion contaminant emission
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur
<u>RULE 317</u> : Organic Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 321</u> : Solvent Cleaning Operations	Emission units using solvents	Solvent used in process operations.
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
<u>RULE 323</u> : Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 353</u> : Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
<u>RULE 505.A, B1, D</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded.

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Pacific Coast Orcutt Hill is a major source.
<u>REGULATION VIII</u> : New Source Review	All emission units	Addition of new equipment of modification to existing equipment.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	Pacific Coast Orcutt Hill is a major source.

**Table 3.2 - Unit-Specific Federally-Enforceable District Rules**

<b>Unit-Specific Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 325</u> : Crude Oil Production and Separation	Wash tank, crude storage tanks, wastewater tanks	Pre-custody transfer oil service tanks with capacities exceeding exemption limits.
<u>RULE 331</u> : Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs.
<u>RULE 342</u> : 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.
<u>RULE 343</u> : Petroleum Storage Tank Degassing	Wash tank, crude storage tanks, wastewater tanks	Tanks used in storage of organic liquids with vapor pressure > 2.6 psia.
<u>RULE 344</u> : Petroleum Pits, Sumps and Cellars	Well cellars, sump, wastewater pits	Compliance with this rule provides a 70% reduction in well cellar ROC emissions.
<u>RULE 360</u> : Emissions of Oxides of Nitrogen from Large Water Boilers and Small Boilers.	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**

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

**Table 3.4 – Adoption Dates of District Rules Applicable at Issuance of Permit**

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	March 17, 2011
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	March 17, 2011
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	October 23, 1978

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
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	Architectural Coatings	November 15, 2001
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 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	April 17, 1997
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	August 19, 1999
Rule 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	January 17, 2008
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
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	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997

Rule No.	Rule Name	Adoption Date
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 810	Federal Prevention of Significant Deterioration (PSD)	January 20, 2011
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	January 20, 2011
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	January 18, 2001
Rule 1304	Issuance, Renewal, Modification and Reopening	January 18, 2001
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 Orcutt Hill Newlove Lease consists of a 62.5 MMBtu/hr field gas fired steam generator. The steam generator is 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 generator is fired on natural gas fuel.

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

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

Therefore:

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

Where:

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

$$\text{F factor} = \text{Stack flow at 3\% O}_2 = 10,051 \text{ dscf/MMBtu at 3\% O}_2$$

MW NO <sub>x</sub>	=	46.01 lb/lb-mole
MW ROC	=	16 lb/lb-mole
MW CO	=	28 lb/lb-mole

NO <sub>x</sub> Emission Factor =	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 <sub>x</sub>	=	9 ppmvd
ROC	=	8.5 ppmvd
CO	=	27 ppmvd

4.2.3 Steam Generator Emission Controls: The emission controls for the steam generator includes the use of an ultra low-NO<sub>x</sub> burner, automatic excess O<sub>2</sub> trim controllers and exhaust gas recirculation. The steam generator emissions (at standard conditions and corrected to 3% O<sub>2</sub>) is limited to 9 ppmv of NO<sub>x</sub>, 8.5 ppmv of ROC and 27 ppmv of CO. The NO<sub>x</sub> and ROC limits represent BACT. The CO limit is based on Pacific Coast Energy'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 have been quantified using the following three 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*), used for newer components that are not associated with the Diatomite Project.

- (3) The correlation equation method, P&P 6100.072 (*Correlation Equation Methodology to Estimate Mass ROC Emissions at O&G Facilities*), used for all components associated with the Diatomite Project.

Emission calculations associated with P&P 6100.060.1996 and P&P 6100.061 are provided in Attachment 10.2. The calculation methodology for the fugitive hydrocarbon emissions based on P&P 6100.072 is detailed in Table 5.4D of this permit. All fugitive hydrocarbon components subject to this methodology are monitored by Pacific Coast Energy 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*.

A 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 utilizes 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. The Diatomite Project utilizes one 5,480 bbl wash tank for oil-water separation, one 2,100 bbl crude storage tank and one 2,100 bbl reject tank. Emissions from these tanks are calculated using USEPA AP-42, Chapter 7 - Liquid Storage Tanks (5<sup>th</sup> Edition, 2/96). Attachment 10.2 contains emission spreadsheets showing the detailed calculations for these tanks.
- 4.4.2 Pits, Sumps and Well Cellars: The 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<sup>2</sup>-day)
- SAREA = unit surface area (ft<sup>2</sup>)
- 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: The Newlove Lease uses a 10,000 bbl capacity wastewater tank that measures 55 feet in diameter and 24 feet high and a 1,000 bbl capacity wastewater tank that measures 21.5 feet in diameter by 16 feet high. The Diatomite Project also uses a 2,100 bbl capacity reject tank that measures 25 feet in diameter by 24 feet high. The tanks are served by vapor recovery. Emissions from the tanks 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<sub>10</sub> 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 and PM<sub>10</sub> when needed for compliance verifications. A PM/PM<sub>10</sub> 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**

Best Available Control Technology (BACT) was required for the Diatomite Project portion of this facility based on the uncontrolled NO<sub>x</sub> and ROC Project Potential to Emit exceeding the 25 lb/day criteria pollutant thresholds for BACT. BACT is required for the steam generator and fugitive I&M components. FGR controls on the steam generator were previously determined through District observed source testing to comply with the BACT NO<sub>x</sub> limit of 9 ppmv (@3%O<sub>2</sub>). 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, 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 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 of the steam generator and thermal oxidizer. See Table 5.6 of this permit for source testing requirements.

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

→ Produced oil: 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<sup>o</sup> 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**

Hazardous air pollutant emissions from the different categories of emission units at this facility are based on emission factors listed in USEPA *AP-42 (5th Ed., 11/95 and 6/97)*. Factors listed in *California Air Toxics Emission Factors (April, 1995), (CATEF)* have been used where the *AP-42* does not list the appropriate factors. If neither *AP-42* nor *CATEF* addresses the applicable HAP emission factors, the HAP emissions are computed based on USEPA's *Air Emission Species Manual, Vol.1 (VOC Species Profiles, 2nd.Ed., 2/90)*.

If no direct data from the USEPA or the CARB are available, the HAP emissions are estimated by the use of Speciation Data obtained from California Air Resources Board's *Speciation Manual: VOC and PM Species Profiles (August 1991)*. These profiles use the underlying criteria pollutant (i.e., ROC) as the basis for estimating the HAP emissions included with the ROCs.

The HAP emission factors are listed in Table 5.5-1. Potential HAP emissions from the facility are computed and listed in Table 5.5-2.

### **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 (if applicable) provides the net emissions increase calculation for the facility and the stationary source. The GHG emission factor is documented in Attachment 10.1.

The District uses a computer database to accurately track the emissions from a facility. Attachment 10.4 contains the District's documentation for the information entered into that database.

#### **5.2 Permitted Emission Limits - Emission Units**

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

- ⇒ Nitrogen Oxides (NO<sub>x</sub>)<sup>3</sup>
- ⇒ Reactive Organic Compounds (ROC)

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<sup>3</sup> Calculated and reported as nitrogen dioxide (NO<sub>2</sub>)

- ⇒ Carbon Monoxide (CO)
- ⇒ Sulfur Oxides (SO<sub>x</sub>)<sup>4</sup>
- ⇒ Particulate Matter (PM)<sup>5</sup>
- ⇒ Particulate Matter smaller than 10 microns (PM<sub>10</sub>)
- ⇒ 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.

### **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 5.4-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.4-2.

### **5.6 Exempt Emission Sources/Part 70 Insignificant Emissions**

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

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<sup>4</sup> Calculated and reported as sulfur dioxide (SO<sub>2</sub>)

<sup>5</sup> Calculated and reported as all particulate matter smaller than 100 µm

## 5.7 Net Emissions Increase Calculation

The net emissions increase for the Newlove Lease since November 15, 1990 (the day the Federal Clean Air Act Amendments were adopted in 1990) is listed in the table below. The NEI for the entire Pacific Coast Energy Co. Orcutt Hill Stationary Source is provided in Attachment 10.4.

Facility No.	Facility Name	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
3321	Newlove	37.42	6.82	59.03	9.92	68.21	12.45	12.08	2.21	24.05	4.40	24.05	4.40
<b>Totals</b>		<b>37.42</b>	<b>6.82</b>	<b>59.03</b>	<b>9.92</b>	<b>68.21</b>	<b>12.45</b>	<b>12.08</b>	<b>2.21</b>	<b>24.05</b>	<b>4.40</b>	<b>24.05</b>	<b>4.40</b>

Notes:

- (1) Facility NEI from IDS.
- (2) Totals only apply to permits for this facility ID. Totals may not appear correct due to rounding.
- (3) Because of rounding, values in this table shown as 0.00 are less than 0.005, but greater than zero.

Table 5.1-1  
Pacific Coast Newlove Lease: Permit to Operate 8240-R8  
Operating Equipment Description

Equipment Category	Description	Dev No	Device Specifications					Usage Data					Maximum Operating Schedule			
			Feed	TVP	Size	Units	Capacity	Units	Load	hr	day	qtr	year			
Tanks	Wash Tank	002973	O/W	2,420	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	002979	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					
Pits and Sumps	Wastewater Tank	107475	Water	2,420	10,000 bbls	-	1.0	1.0	24	2,190	8,760					
	Well Cellars	003041	Service	-	-	-	-	-	-	-	-					
	Waste Water Pits	See Equip. List	O/W	Primary	1,044 ft <sup>2</sup>	-	1.0	1.0	24	2,190	8,760					
	Spill Catch Pan	101177	O/W	Secondary	75 ft <sup>2</sup>	-	1.0	1.0	24	2,190	8,760					
	Truck Washout Pit	113871	O/W	Primary	5 ft <sup>2</sup>	-	1.0	1.0	24	2,190	8,760					
Loading Rack	Truck Washout Pit	113871	O/W	Tertiary	420 ft <sup>2</sup>	-	1.0	1.0	24	2,190	8,760					
	Truck Washout Pit	113871	O/W	Tertiary	420 ft <sup>2</sup>	-	1.0	1.0	24	2,190	8,760					
	Loading Rack	113485	Oil	-	-	-	1.0	1.0	24	2,190	8,760					
Fugitive Components (a)	Valves, Connections, etc	002980	-	-	62 wells	-	1.0	1.0	24	2,190	8,760					
	Pumps/Compressors/Wellheads	003042	-	-	62 wells	-	1.0	1.0	24	2,190	8,760					
Fugitive Components (b)	Valves	112500	-	Gas	403 cips	-	1.0	1.0	24	2,190	8,760					
	Flanges/Connections	112501	-	Gas	2,725 cips	-	1.0	1.0	24	2,190	8,760					
	Pressure Safety Valves	113146	-	Gas	1 cips	-	1.0	1.0	24	2,190	8,760					
	Valves	112812	-	Oil	389 cips	-	1.0	1.0	24	2,190	8,760					
	Flanges/Connections	112813	-	Oil	2,293 cips	-	1.0	1.0	24	2,190	8,760					
	Pump Seals	112814	-	Oil	44 cips	-	1.0	1.0	24	2,190	8,760					

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

**Table 5.1-1D**  
**Pacific Coast Energy Newlove Lease: Diatomite Project**  
**PTO 8240-R8**  
**Operating Equipment Description**

Equipment Category	Description	Device Specifications					Usage Data				Max Operating Schedule		
		Dev No	Feed	Parameter	Size	Units	Capacity	Units	Load	hr	day	qtr	year
Phase I													
Combustion	Steam Generator	109530		PUC/prod gas	62.5	MMBTU/hr	--	--	1.0	1.0	24	2,190	8,760
Tanks	Crude Tank	109488	Crude	TVP	2,100	bbis	1,500	bb/day	1.0	1.0	24	2,190	8,760
	Wash Tank	109487	O/W		5,480	bbis	2,000	bb/day	1.0	1.0	24	2,190	8,760
	Reject Tank	109489	O/W		2,100	bbis	1,500	bb/day	1.0	1.0	24	2,190	8,760
	Produced Water Tank	109486	Water		2,800	bbis	--	--	1.0	1.0	24	2,190	8,760
Pits, Sumps, Well Cellars	Sand Bin	113481			140	ft <sup>2</sup>	--	--	1.0	1.0	24	2,190	8,760
	Sand Bin	113482			140	ft <sup>2</sup>	--	--	1.0	1.0	24	2,190	8,760
Fugitive Components	Valves, Connectors, Flanges, etc.	109516	--	Service	5,995	comp	0.31	ROC/TOC	1.0	1.0	24	2,190	8,760

**Table 5.1-2  
Pacific Coast Newlove Lease: Permit to Operate 8240-R8  
Equipment Emission Factors**

Equipment Category	Description	Dev No	Emission Factors							Units	
			NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG		
Tanks	Wash Tank	002973	See attached worksheets for emission factors.								
	Wash Tank	109949									
	Wash Tank	002979									
	Crude Tank	002974									
	Wastewater Tank	110332		--	0.0006	--	--	--	--	--	lb/ft <sup>2</sup> -day
	Wastewater Tank	107475		--	0.0006	--	--	--	--	--	lb/ft <sup>2</sup> -day
Pits and Sumps	Well Cellars	003041	--	0.0282	--	--	--	--	--	lb/ft <sup>2</sup> -day	
	Pits	See Equip. List	--	0.0126	--	--	--	--	--	lb/ft <sup>2</sup> -day	
	Spill Catch Pan	101177	--	0.0941	--	--	--	--	--	lb/ft <sup>2</sup> -day	
	Truck Washout Pit	113871	--	0.0058	--	--	--	--	--	lb/ft <sup>2</sup> -day	
	Truck Washout Pit	113871	--	0.0058	--	--	--	--	--	lb/ft <sup>2</sup> -day	
Fugitive Components	Valves, Connections, etc	002980	--	--	--	--	--	--	--	--	
	Pumps/Compressors/Wellheads	003042	--	--	--	--	--	--	--	--	
Fugitive Components (b)	Valves	112500	--	0.0183	--	--	--	--	--	lbs/cip/day	
	Flanges/Connections	112501	--	0.0043	--	--	--	--	--	lbs/cip/day	
	Pressure Safety Valves	113146	--	0.4135	--	--	--	--	--	lbs/cip/day	
	Valves	112812	--	0.0005	--	--	--	--	--	lbs/cip/day	
	Flanges/Connections	112813	--	0.0002	--	--	--	--	--	lbs/cip/day	
	Pump Seals	112814	--	0.0004	--	--	--	--	--	lbs/cip/day	

**Table 5.1-2D**  
**Pacific Coast Energy Newlove Lease: Diatomite Project**  
**PTO 8240-R8**  
**Equipment Emission Factors**

Equipment Category	Description	Dev No	Emission Factors							Units	Notes	
			NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG			
Phase I												
Combustion	Steam Generator	109530	0.011	0.004	0.019	0.004	0.006	0.006	0.006	116.890	lb/MMBTU	A
Tanks	Crude Tank	109488	See attached worksheets for emission factors.									
	Wash Tank	109487	See attached worksheets for emission factors.									
	Reject Tank	109489	See attached worksheets for emission factors.									
	Produced Water Tank	109486	--	0.0004	--	--	--	--	--	lb/ft <sup>2</sup> -day		
Pits, Sumps, Well Cellars	Sand Bin	113481	See attached worksheets for emission factors.									
	Sand Bin	113482	See attached worksheets for emission factors.									
Fugitive Components	Valves, Connectors, Flanges, etc.	109516	See attached worksheet for emission factors.								lb/comp-day	B

**Notes:**

A - NO<sub>x</sub>, ROC, and CO em factors: manufacturers specs; SO<sub>x</sub> em factor: mass balance based on 23 ppmv S content as H<sub>2</sub>S and 1050 BTU/scf; PM, PM<sub>10</sub>: 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  
Pacific Coast Newlove Lease: Permit to Operate 8240-R8  
Hourly and Daily Emissions

Equipment Category	Description	Dev No	NO <sub>x</sub>		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>		GHG		Enforceability Type
			lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	
Tanks	Wash Tank	002973	-	-	0.00	0.04	-	-	-	-	-	-	-	-	FE
	Wash Tank	109849	-	-	0.00	0.04	-	-	-	-	-	-	-	-	FE
	Wash Tank	002979	-	-	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	-	-	2.17	52.19	-	-	-	-	-	-	-	-	A
	Pumps/Compressors/Wellheads	003042	-	-	0.04	1.01	-	-	-	-	-	-	-	-	A
Fugitive Components	Valves	112500	-	-	0.31	7.37	-	-	-	-	-	-	-	-	FE
	Flanges/Connections	112501	-	-	0.49	11.83	-	-	-	-	-	-	-	-	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 Seats	112814	-	-	0.00	0.02	-	-	-	-	-	-	-	-	FE

Notes:

- A = APCD enforceable emission limit.
- FE = Federally enforceable emission limit.

**Table 5.1-3D**  
**Pacific Coast Energy Newlove Lease: Diatomite Project**  
**PTO 8240-R8**  
**Hourly and Daily Emissions**

Equipment Category	Description	Dev No	NO <sub>x</sub>		ROC		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>		GHG	
			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	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	7,305.62	175,335.00
Tanks	Crude Tank	109488			0.01	0.27										
	Wash Tank	109487			0.01	0.27										
	Reject Tank	109489			0.01	0.28										
	Produced Water Tank	109486			0.01	0.21										
Pits, Sumps, Well Cellars	Sand Bin	113481			0.010	0.26										
	Sand Bin	113482			0.010	0.26										
Fugitive Components	Valves, Connectors, Flanges, etc.	109516			0.61	14.53										
<b>Phase 1 Subtotal</b>			<b>0.69</b>	<b>16.50</b>	<b>0.92</b>	<b>22.02</b>	<b>1.19</b>	<b>28.50</b>	<b>0.23</b>	<b>5.55</b>	<b>0.38</b>	<b>9.00</b>	<b>0.38</b>	<b>9.00</b>	<b>7,305.62</b>	<b>175,335.00</b>

Table 5.1-4  
Pacific Coast Newlove Lease: Permit to Operate 8240-R8  
Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NO <sub>x</sub>		ROC		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>		GHG		Enforceability Type	
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY		TPQ
Tanks	Wash Tank	002973	-	-	0.00	0.01	-	-	-	-	-	-	-	-	-	-	-	FE
	Wash Tank	109949	-	-	0.00	0.01	-	-	-	-	-	-	-	-	-	-	-	FE
	Wash Tank	002979	-	-	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	-	-	2.38	9.52	-	-	-	-	-	-	-	-	-	-	-	A
	Pumps/Compressors/Wellheads	003042	-	-	0.05	0.18	-	-	-	-	-	-	-	-	-	-	-	A
Fugitive Components	Valves	112500	-	-	0.34	1.35	-	-	-	-	-	-	-	-	-	-	-	FE
	Flanges/Connections	112501	-	-	0.54	2.16	-	-	-	-	-	-	-	-	-	-	-	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

Notes:

- A = APCD enforceable emission limit.
- FE = Federally enforceable emission limit.

Table 5.1-4D  
 Pacific Coast Energy Newlove Lease: Diatomite Project  
 PTO 8240-R8  
 Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NOx		ROC		CO		SOx		PM		PM <sub>10</sub>		GHG	
			TPQ	TPY	TPQ	TPY	TPQ	TPY								
Phase I																
Combustion	Steam Generator	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	8,000	31,998
Tanks	Crude Tank	109488			0.01	0.05										
	Wash Tank	109487			0.01	0.05										
	Reject Tank	109489			0.01	0.05										
	Produced Water Tank	109486			0.01	0.04										
Pits, Sumps, Well Cellars	Sand Bin	113481			<0.01	0.01										
	Sand Bin	113482			<0.01	0.01										
Fugitive Components	Valves, Connectors, Flanges, etc.	109516			0.43	1.72										
<b>Phase I Subtotal</b>			<b>0.75</b>	<b>3.01</b>	<b>0.75</b>	<b>3.02</b>	<b>1.30</b>	<b>5.20</b>	<b>0.25</b>	<b>1.01</b>	<b>0.41</b>	<b>1.64</b>	<b>0.41</b>	<b>1.64</b>	<b>8,000</b>	<b>31,998</b>

**Table 5.2**  
**Pacific Coast Newlove Lease: Permit to Operate 8240-R8**  
**Total Newlove Lease Permitted Facility Emissions**

**A. HOURLY (lb/hr)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	0.12	--	--	--	--	--
Pits and Sumps	--	1.29	--	--	--	--	--
Fugitive Components	--	3.06	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	0.69	0.25	1.19	0.23	0.38	0.38	7,305.62
Tanks	--	0.06	--	--	--	--	--
Fugitive Components	--	0.65	--	--	--	--	--
	<b>0.69</b>	<b>5.43</b>	<b>1.19</b>	<b>0.23</b>	<b>0.38</b>	<b>0.38</b>	<b>7,305.62</b>

**B. DAILY (lb/day)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	2.97	--	--	--	--	--
Pits and Sumps	--	30.91	--	--	--	--	--
Fugitive Components	--	73.52	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	16.50	5.93	28.50	5.55	9.00	9.00	175,335.00
Tanks	--	1.56	--	--	--	--	--
Fugitive Components	--	15.53	--	--	--	--	--
	<b>16.50</b>	<b>130.43</b>	<b>28.50</b>	<b>5.55</b>	<b>9.00</b>	<b>9.00</b>	<b>175,335.00</b>

**C. QUARTERLY (tpq)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	0.14	--	--	--	--	--
Pits and Sumps	--	1.41	--	--	--	--	--
Fugitive Components	--	3.35	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	0.75	0.27	1.30	0.25	0.41	0.41	8,000.00
Tanks	--	0.05	--	--	--	--	--
Fugitive Components	--	0.43	--	--	--	--	--
	<b>0.75</b>	<b>5.65</b>	<b>1.30</b>	<b>0.25</b>	<b>0.41</b>	<b>0.41</b>	<b>8,000.00</b>

**D. ANNUAL (tpy)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	0.54	--	--	--	--	--
Pits and Sumps	--	5.64	--	--	--	--	--
Fugitive Components	--	13.42	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	3.01	1.08	5.20	1.01	1.64	1.64	31,998.00
Tanks	--	0.21	--	--	--	--	--
Fugitive Components	--	1.72	--	--	--	--	--
	<b>3.01</b>	<b>22.62</b>	<b>5.20</b>	<b>1.01</b>	<b>1.64</b>	<b>1.64</b>	<b>31,998.00</b>

**Table 5.3**  
**Pacific Coast Newlove Lease: Permit to Operate 8240-R8**  
**Total Newlove Lease Federal Potential To Emit**

**A. HOURLY (lb/hr)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks		0.12	--	--	--	--	--
Pits and Sumps		1.29	--	--	--	--	--
Exempt Surface Coating		0.01	--	--	--	--	--
Fugitive Hydrocarbons		0.85	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	0.69	0.25	1.19	0.23	0.38	0.38	7,305.62
Tanks	--	0.06	--	--	--	--	--
Fugitive Components	--	0.65	--	--	--	--	--
	<b>0.69</b>	<b>3.23</b>	<b>1.19</b>	<b>0.23</b>	<b>0.38</b>	<b>0.38</b>	<b>7305.62</b>

**B. DAILY (lb/day)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	2.97	--	--	--	--	--
Pits and Sumps	--	30.91	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	20.32	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	16.50	5.93	28.50	5.55	9.00	9.00	175,335.00
Tanks	--	1.56	--	--	--	--	--
Fugitive Components	--	15.53	--	--	--	--	--
	<b>16.50</b>	<b>77.24</b>	<b>28.50</b>	<b>5.55</b>	<b>9.00</b>	<b>9.00</b>	<b>175,335.00</b>

**C. QUARTERLY (tpq)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	0.14	--	--	--	--	--
Pits and Sumps	--	1.41	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	0.93	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	0.75	0.27	1.30	0.25	0.41	0.41	8,000.00
Tanks	--	0.05	--	--	--	--	--
Fugitive Components	--	0.43	--	--	--	--	--
	<b>0.75</b>	<b>3.23</b>	<b>1.30</b>	<b>0.25</b>	<b>0.41</b>	<b>0.41</b>	<b>8,000.00</b>

**D. ANNUAL (tpy)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	GHG
<i>Non-Diatomite</i>							
Tanks	--	0.54	--	--	--	--	--
Pits and Sumps	--	5.64	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
Fugitive Hydrocarbons	--	3.71	--	--	--	--	--
<i>Diatomite</i>							
Stream Generator	3.01	1.08	5.20	1.01	1.64	1.64	31,998.00
Tanks	--	0.21	--	--	--	--	--
Fugitive Components	--	1.72	--	--	--	--	--
	<b>3.01</b>	<b>12.92</b>	<b>5.20</b>	<b>1.01</b>	<b>1.64</b>	<b>1.64</b>	<b>31,998.00</b>

**Table 5.4D**  
**Pacific Coast Energy Newlove Lease: Diatomite Project**  
**PTO 8240-R8**  
**Summary of Fugitive Emission Estimates Per APCD P&P 6100.072.1998**

Category	Product	Phase 1												ROC/THC	lb/mo (#1)	lb/mo (#2)	lb/mo (#3)	ROC lb/day	ROC TPQ	ROC TPY			
		Number of			Number of			Number of			THC SVRF												
		Components Month 1		Total	Components Month 2		Total	Components Month 3		Total	leaks <10K		leaks ≥10K										
Valves	Gas/Li Liq	leaks <10K	1	1483	leaks <10K	1483	leaks <10K	1483	leaks <10K	1483	leaks <10K	0	1483	leaks <10K	1.85E-03	7.33E+00	0.31	94.97	25.87	25.87	3.12	0.07	0.29
Others	Gas/Li Liq	leaks <10K	720	721	leaks <10K	721	leaks <10K	721	leaks <10K	721	leaks <10K	0	721	leaks <10K	1.27E-02	9.76E+00	0.31	178.25	86.34	86.34	5.86	0.18	0.70
Connectors	Gas/Li Liq	leaks <10K	3996	3997	leaks <10K	3996	leaks <10K	3996	leaks <10K	3996	leaks <10K	1	3997	leaks <10K	6.35E-04	1.37E+00	0.31	36.84	36.84	36.84	1.21	0.06	0.22
Flanges	Gas/Li Liq	leaks <10K	1705	1707	leaks <10K	1706	leaks <10K	1707	leaks <10K	1707	leaks <10K	0	1707	leaks <10K	1.48E-03	3.23E+00	0.31	84.71	54.26	23.82	2.78	0.08	0.33
Open-ended lines	Gas/Li Liq	leaks <10K	0	0	leaks <10K	0	leaks <10K	0	leaks <10K	0	leaks <10K	0	0	leaks <10K	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Compressors	Gas/Li Liq	leaks <10K	3	4	leaks <10K	4	leaks <10K	4	leaks <10K	4	leaks <10K	0	4	leaks <10K	3.07E-02	3.80E+00	0.31	36.70	1.16	1.16	1.21	0.02	0.08
Pumps	Gas/Li Liq	leaks <10K	18	19	leaks <10K	19	leaks <10K	19	leaks <10K	19	leaks <10K	0	19	leaks <10K	3.07E-02	3.80E+00	0.31	41.04	5.50	5.50	1.35	0.03	0.10
<b>Total</b>		leaks <10K	<b>7924</b>	<b>7931</b>	leaks <10K	<b>7929</b>	leaks <10K	<b>7931</b>	leaks <10K	<b>7930</b>	leaks <10K	<b>1</b>	<b>7931</b>	leaks <10K							<b>15.53</b>	<b>0.43</b>	<b>1.72</b>

Note: Enforceable emissions limits in this table are Total for ROC lb/day (daily), ROC TPQ (calendar quarter), and ROC TPY (calendar year).

**Table 5.6  
Steam Generator Source Test Requirements**

<b>Equipment Item</b>	<b>Emission Points</b>	<b>Pollutants/Parameters</b>	<b>Test Method</b>
Steam Generator			
	Stacks (outlet)	NO <sub>x</sub> - 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 <sub>2</sub> , CO <sub>2</sub> , Dry Mol Wt	EPA Method 3
		Moisture Content	EPA Method 4
	Inlet	ROC <sup>f</sup> - lb/hr	
		Destruction Efficiency <sup>f</sup>	
	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 <sup>e</sup>

**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<sub>x</sub>, CO and ROC in both units of ppmvd (at standard conditions and 3% O<sub>2</sub>) 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<sub>x</sub>, CO and O<sub>2</sub>, 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**

<b>Emission Source</b>	<b>Pollutant</b>	<b>BACT Technology</b>	<b>BACT Performance Standard</b>
Steam Generator	NO <sub>x</sub>	Ultra Low NO <sub>x</sub> burner with automatic excess O <sub>2</sub> trim controller and flue gas recirculation (FGR)	9 ppmv NO <sub>x</sub> exhaust emission concentration corrected to 3% O <sub>2</sub> or exhaust emission rate of 0.011 lbs/MMBTU
Steam Generator	ROC	Same as above	8.5 ppmv ROC exhaust emission concentration corrected to 3% O <sub>2</sub> 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 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 Orcutt Hill 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)	Health 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

An official AB2588 quadrennial update will be required during the next quadrennial update cycle under the Air Toxics “Hot Spots” Program to ensure the source does not pose a significant risk.

## **7.0 CAP Consistency, Offset Requirements and ERCs**

### **7.1 General**

Santa Barbara County is in attainment of the federal ozone standard but is in nonattainment of the state eight-hour ozone ambient air quality standard. In addition, the County is in nonattainment of the state PM<sub>10</sub> ambient air quality standards. The County is either in attainment or unclassified with respect to all other ambient air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with maintenance of the federal ambient air quality standards and progress towards attainment of the state ambient air quality standards. Under District regulations, any modifications at this facility or the Orcutt Hill Stationary Source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Additional increases may 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 55 lbs/day for all non-attainment pollutants except PM<sub>10</sub> for which the level is 80 lbs/day.

### **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.

On January 20, 2011 the District Board adopted the 2010 Clean Air Plan. The 2010 Plan provides a three-year update to the 2007 Clean Air Plan. As Santa Barbara County has yet to attain the state eight-hour ozone standard, the 2010 Clean Air Plan demonstrates how the District plans to attain that standard. The 2010 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 ROCs. Table 7.3 summarizes the emissions and offset totals for this stationary source.

**Table 7.3  
Pacific Coast Energy Orcutt Hill Emissions and ERCs Used**

<b>REACTIVE ORGANIC COMPOUNDS (ROC)</b>					
<b>NEI FROM PROJECT</b>	<b>ROC</b>		<b>ERC</b>		
	<b>TPQ</b>	<b>TPY</b>	<b>Certificate</b>		
Cal Coast 750 Bbl Wash Tank (P10833)	0.018	0.070	172, 215 <sup>(a)(b)</sup>		
Cal Coast Replace 2000 bbl Crude Tank (P10934)	0.030	0.120	172, 215 <sup>(a)(b)</sup>		
Cal Coast 750 Bbl Wastewater Tank (P11191)	0.035	0.140	172, 215 <sup>(a)(b)</sup>		
Cal Coast Increase Wash Tank From 2,000 Bbl to 3,000 Bbl	0.000	0.000			
Cal Coast Loading Rack & Throughput Increase (A13514) <sup>(e)</sup>	0.065	0.129	172, 215 <sup>(a)(b)</sup>		
Hartnell New H2S Scrubber at K7 (A13408)	0.058	0.230	172, 215 <sup>(a)(b)</sup>		
Newlove Replace 10,000 Bbl Wastewater Tank (P11909)	0.000	0.000			
Newlove Replace 3,000 Bbl Wastewater Tank (A12273)	0.000	0.000			
Newlove Replace 3,000 Bbl Wastewater Tank (P12354)	0.000	0.000			
Newlove Diatomite Project (A12084-03)	1.323	5.290	172, 215 <sup>(a)(b)</sup>		
Newlove Thermal Oxidizer (A13000)	0.040	0.160	172, 215 <sup>(a)(b)</sup>		
Newlove Throughput Increase (A13134)	0.043	0.170	172, 215 <sup>(a)(b)</sup>		
Newlove Twenty-nine New Sx Sand Wells (A13140)	0.560	2.240	172, 215 <sup>(a)(b)</sup>		
Newlove Four New Wells (A13141)	0.010	0.040	172, 215 <sup>(a)(b)</sup>		
Newlove Five Sx Wells (P13230) <sup>(f)</sup>	0.101	0.405	172, 215 <sup>(a)(b)</sup>		
Newlove Vacuum Truck Washout Station (ATC 13368)	0.222	0.889	249 <sup>(a)(b)</sup>		
Newlove New Sulfur Scrubber (A13397)	0.045	0.180	172, 215 <sup>(a)(b)</sup>		
Newlove Loading Rack (A13513) <sup>(e)</sup>	0.095	0.095	172, 215 <sup>(a)(b)</sup>		
Newlove Five Sx Wells (A13845)	0.101	0.405	172, 215 <sup>(a)(b)</sup>		
Pinal Replace 3,000 Bbl Wash Tank (P10752)	0.003	0.010	172, 215 <sup>(a)(b)</sup>		
Pinal Replace 1,000 Bbl Wastewater Tank (P11982)	0.000	0.000			
Pinal Replace 5,000 Bbl Wastewater Tank (P13145)	0.000	0.000			
Pinal Loading Rack & Throughput Increase (A13539) <sup>(e)</sup>	0.023	0.023	172, 215 <sup>(a)(b)</sup>		
Squires Convert Liquid Knockout to a Sulfur Scrubber (A13296)	0.040	0.160	172, 215 <sup>(a)(b)</sup>		
Compressor Plant Convert Inlet Scrubber to Sulfur Scrubber (P11580)	0.023	0.090	172, 215 <sup>(a)(b)</sup>		
Compressor Plant Convert Inlet Scrubber to a Sulfur Scrubber (A12032)	0.003	0.010	172, 215 <sup>(a)(b)</sup>		
Compressor Plant New VRU & Component Update (A12767)	0.275	1.100	172, 215 <sup>(a)(b)</sup>		
Compressor Plant Replaced Road Oil Tank with a Wastewater Tank (A13161)	0.028	0.110	172, 215 <sup>(a)(b)</sup>		
I.C. Engines (P8039-R6) NEI From Previous Permits	0.003	0.010	172, 215 <sup>(a)(b)</sup>		
I.C. Engines New 80 bhp Backup Generator for the Field Office (A13592) <sup>(e)</sup>	0.001	0.001	237 <sup>(a)(b)</sup>		
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	0.193	0.770	172, 215 <sup>(a)(b)</sup>		
Orcutt MVFF (P11166)	0.010	0.040	172, 215 <sup>(a)(b)</sup>		
	<b>3.343</b>	<b>12.887</b>			
<b>EMISSION REDUCTION SOURCES</b>					
	<b>Emission Reduction Credits Used</b>		<b>Emission Liability</b>		
	<b>TPQ</b>	<b>TPY</b>	<b>Distance Factor</b>	<b>TPQ</b>	<b>TPY</b>
ROC ERCs	0.655	2.620	1.2	0.546	2.183
NOx ERCs	3.356	13.426	1.2	2.797	10.704
<b>TOTAL</b>	<b>4.012</b>	<b>16.045</b>		<b>3.343</b>	<b>12.887</b>

**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.

## **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 Nuevo 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.

## **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. 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/voke/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 **Indemnity and Separation Clauses.** The Permittee shall defend, indemnify and hold harmless the District or its agents, officers and employees from any claim, action or proceeding against the District or its agents, officers or employees, to attack, set aside, void, or annul, in whole or in part, the approval granted herein. In the event that the District fails promptly to notify the Permittee of any such claim, action or proceeding, or that the District fails to cooperate fully in the defense of said claim, this condition shall thereafter be of no force or effect. In the event that any condition contained herein is determined to be invalid, then all remaining 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).** 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	
112500	Valves - Gas Service
112501	Flanges/Connections - Gas Service
112812	Valves - Oil Service
112813	Flanges/Connections - Oil Service
112814	Pump Seals - Oil 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
002973	Wash Tank, 3,000 bbl capacity
109949	Wash Tank, 3,000 bbl capacity
002979	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, 002973, 109949, and 002979) 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 an 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	Wastewater Pit
101178	Wastewater Pit
101184	Wastewater Pit
101185	Wastewater Pit
113871	Truck Washout Pit #1
113872	Truck Washout Pit #2

- (a) **Emission Limits:** Mass emissions 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:

a. *Throughput Limitation*. The following throughput limitations shall not be exceeded:

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

b. *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 overflow:

- i A primary overflow protection system consisting of a preset fill meter with automatic flow shutoff and a secondary overflow 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

- ii 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 in Condition 2.b.i. 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 **Diatomite Project Equipment.** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
109530	Steam Generator, 625. MMBtu/hr
109488	Crude Tank, 2100 bbls
109487	Wash Tank, 5480 bbls
109489	Reject Tank, 2100 bbls
109486	Produced Tank, 2800 bbls
109516	Valves, Connectors, Flanges, etc., 5995 comp
113481	Sand Bin
113482	Sand Bin

- (a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed in Tables 4 and 5. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.
  - i. *Steam Generator Oxides of Nitrogen (NO<sub>x</sub>) Concentration Emissions Limits.* Emissions of NO<sub>x</sub> (as NO<sub>2</sub>) from each steam generator subject to this permit shall not exceed a NO<sub>x</sub> stack concentration of 9 ppmvd at 3% O<sub>2</sub> or a NO<sub>x</sub> 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.
  - ii. *Steam Generator Reactive Organic Compounds (ROC) Concentration Emissions Limits.* Emissions of ROC from each steam generator subject to this permit shall not exceed a ROC stack concentration of 8.5 ppmvd at 3% O<sub>2</sub> 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 subject to this permit shall not exceed a CO stack concentration of 26 ppmvd at 3% O<sub>2</sub> 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.
  - iv. *Fugitive Hydrocarbon Emissions Components.* Mass emissions from gas/light liquid service fugitive components shall not exceed the daily, quarterly and yearly ROC limits listed in Table 5.4D. Compliance with this condition shall be based monitoring and emission calculation methodology as documented in Condition C.7(f) 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:

Phase 1 oil production <sup>(a)</sup>	1,500 bbl/day
Phase 1 gas production <sup>(a)</sup>	340 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.

ii. *Heat Input Limits.* The hourly, daily and annual heat input limits to the steam generator under this permit (District Device No. 109530) 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	<u>62.500</u> MMBtu/hour
Daily Heat Input	<u>1500.000</u> MMBtu/day
Annual Heat Input	<u>547500.000</u> MMBtu/year

iii. *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.

iv. 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.

vi. *Gaseous Fuel Sulfur Limit.* The total sulfur content (calculated as H<sub>2</sub>S at standard conditions, 60° 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<sub>2</sub>S at standard conditions, 60 °F and 14.7 psia), shall not exceed 1.36 grains per 100 cubic feet (23 ppm<sub>v</sub>).

- 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 of oil (bbls) produced from each production phase shall be measured through the use of calibrated meters or through the use of an 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 volumes (in scf) of (1) PUC quality natural gas (including that blended with Orcutt Hill Field produced gas) and (2) Diatomite project produced gas burned in the 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.
  - iii. 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.
  - iv. 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.
  - v. The permittee shall monitor and record the Steam Generator stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> 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.

If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within permitted limits as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures.

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.

- vi. *FGR Operating Monitoring.* The steam generator burner windbox shall be equipped with an oxygen monitor. The burner windbox operating O<sub>2</sub> shall be continuously monitored and the O<sub>2</sub>% value displayed when the steam generator is operating.
- vii. The temperature of the radiant section of the steam generator shall be continuously measured using a thermocouple or equivalent temperature measurement device approved by the District.
- viii. The H<sub>2</sub>S concentration of Diatomite Project gas treated by the SulfaTreat system and routed to the steam generators shall be measured monthly using 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.
- ix. The H<sub>2</sub>S concentration of the PUC utility gas blended with Orcutt Hill Field produced gas burned by the steam generator shall be measured weekly using 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 immediately downstream of the 2" 150 psi mixing point, prior to combustion in the steam generator.
- x. All monitoring shall be conducted in accordance with the District-approved *Process Monitor Calibration and Maintenance Plan*.

- xi. 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.
  - xii. 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.
  - xiii. The permittee shall perform monthly monitoring for fugitive emissions of each project component included in the component categories listed in Table 5.4D in accordance with the provisions of the District approved *Fugitive Emissions Inspection and Maintenance Plan for the Diatomite Project* (I&M Plan). The I&M Plan shall be implemented for the life of the project. The I&M Plan shall contain the information required per Rule 331.I.1. In addition, it shall include a listing of each individual component and the applicable TOC ppmv leak detection and repair (LDAR) threshold for each component as specified in Table 7 of this permit. The monitoring method shall adhere to the requirements of Rule 331.H.1. If the monthly monitored value of a component exceeds the LDAR threshold, permittee shall repair the component within five (5) days. However, permittee shall adhere to the Rule 331.E.1 repair timeline for liquid leaks (i.e. repair within 24 hours from detection) and non-critical component gas leaks greater than 50, 000 ppmv (i.e. repair within 1 day from detection). An inspection log shall be maintained consistent with Rule 331.G.4.
- (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 the steam generator and the number of days per month that the steam generator operated.
  - iv. The H<sub>2</sub>S 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.
  - ix. 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.
  - x. *Steam Generator Monitoring Records:*
    - a. the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements,
    - b. the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>
    - c. make and model of exhaust gas analyzer
    - d. exhaust gas analyzer calibration records
    - e. a description of any corrective action taken to maintain the emissions within the acceptable range.
- (e) 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 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.

- (f) **Fugitive Hydrocarbon Components.** 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 following requirements apply:
- i. Permittee shall provide a component inventory for each phase of the project 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).
  - ii. On a monthly basis, each project fugitive component identified in the fugitive component count required above shall be monitored for leaks.
  - iii. 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*.
  - iv. SVRFs for leaking components shall be applied for the entire monthly monitoring period and fugitive ROC emissions calculated by month.
  - v. 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 5.4D of this permit. Any calendar quarter total of fugitive component ROC emissions exceeding the quarterly Table 5.4D limit is a violation of this permit.
- (g) **Minimization of Atmospheric Releases.** 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:

- i. **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*. Operator shall take action to return the plant to normal operating pressures.
- ii. **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:

- iii. 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. Permittee shall notify the District of any release pressure alarm via telephone or email (attn: Orcutt Hill Project Manager) 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

- (h) 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 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.8 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 anniversary date. 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.

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.9 **Requirements for Produced Gas.** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.
- C.10 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:
- (a) Rule 331 fugitive hydrocarbon I&M program data:
    - inspection summary.
    - record of leaking components.
    - record of leaks from critical components.
    - record of leaks from components that incur five repair actions within a continuous 12-month period.
    - record of component repair actions including dates of component re-inspections.
  - (b) *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 the 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<sub>2</sub>S and total sulfur measurements of gas treated by the SulfaTreat system, and of gas burned in the 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  $\geq$  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 as required by PTO 8240-R6.
- (n) Rule 331 fugitive hydrocarbon I&M program data:
  - i. Record of leaking components;
  - ii. Record of leaks from critical components;
  - iii. Record of leaks from components that incur five repair actions within a continuous 12-month period; and,
  - iv. Record of component repair actions including dates of component re-inspections
- (o) 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.
- (p) Annual NO<sub>x</sub> and ROC emissions from both permitted and exempt equipment.
- (q) Fugitive ROC emissions (tons) by quarter.
- (r) The dates of oil shipments from the loading rack and the total volume of oil (bbls) shipped on each day listed.
- (s) The results of steam generator monitoring, including measured concentrations of NO<sub>x</sub>, CO, and O<sub>2</sub>, as well as records of exhaust gas analyzer calibration.

- C.11 **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 August 25, 2008)*

#### **9.D District-Only Conditions**

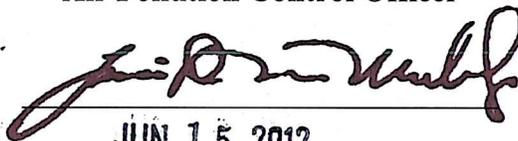
The following section lists permit conditions that are not federally-enforceable (i.e., not enforceable by the USEPA or the public). However, these conditions are enforceable by the District and the State of California. These conditions have been determined as being necessary to ensure that operation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

- D.1 **Condition Acceptance.** Acceptance of this operating permit by the permittee shall be considered as acceptance of all terms, conditions, and limits of this permit.
- D.2 **Facility Throughput Limitations.** The 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.
- 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. 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<sub>x</sub> 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) associated with the Newlove Lease shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the entire facility shall not exceed the total limits listed in Table 5.2.

Air Pollution Control Officer



JUN 15 2012

Date

NOTES:

- (a) This permit supersedes all previous District permits issued for the Newlove Lease
- (b) Permit Reevaluation Due Date: June 2, 2012
- (c) Part 70 Operating Permit Expiration Date: June 2, 2012

## 10.0 Attachments

- 10.1 Emission Calculation Documentation
- 10.2 Emission Calculation Spreadsheets
- 10.3 Fee Calculation
- 10.4 IDS Tables
- 10.5 Equipment List
- 10.6 Well List
- 10.7 10.7 Source Comments on Draft Permit/District Response to Comments

## 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<sub>2</sub> equivalent emission factors are calculated for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O individually, then summed to calculate a total CO<sub>2e</sub> emission factor. Annual CO<sub>2e</sub> emission totals are presented in short tons.

##### **For natural gas combustion the emission factor is:**

$(53.02 \text{ kg CO}_2/\text{MMBtu}) (2.2046 \text{ lb/kg}) = 116.89 \text{ lb CO}_2/\text{MMBtu}$

$(0.001 \text{ kg CH}_4/\text{MMBtu}) (2.2046 \text{ lb/kg})(21 \text{ lb CO}_2\text{e}/\text{lb CH}_4) = 0.046 \text{ lb CO}_2\text{e}/\text{MMBtu}$

$(0.0001 \text{ kg N}_2\text{O}/\text{MMBtu}) (2.2046 \text{ lb/kg})(310 \text{ lb CO}_2\text{e}/\text{lb N}_2\text{O}) = 0.068 \text{ lb CO}_2\text{e}/\text{MMBtu}$

Total CO<sub>2e</sub>/MMBtu =  $116.89 + 0.046 + 0.068 = \underline{117.00 \text{ lb CO}_2\text{e}/\text{MMBtu}}$

### 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 (5<sup>th</sup> 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 - 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-R8  
 Date: 04/09/12  
 Tank: Wash Tank  
 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: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):	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

paint color	Paint Factor Matrix	
	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

liquid	Molecular Weight Matrix
	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

Computed Values	
roof outage <sup>1</sup> (feet):	0.3
vapor space volume <sup>2</sup> (cubic feet):	901
tumovers <sup>3</sup> :	365
tumover factor <sup>4</sup> :	0.25
paint factor <sup>5</sup> :	0.68
surface temperatures (*R, *F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
dialmal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.576496
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	1.07212
vapor density <sup>14</sup> (lb/cubic foot):	0.009475
vapor expansion factor <sup>15</sup> :	0.127
vapor saturation factor <sup>16</sup> :	0.931212
vented vapor volume (scf/bbl):	8
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

liquid	Adjusted TVP Matrix
	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

liquid	RVP Matrix
	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 ROG emissions			Controlled ROG emissions		
	lb/hr	lb/day	ton/year	lb/hr	lb/day	ton/year
breathing loss <sup>17</sup> =	0.04	0.89	0.16	0.00	0.04	0.01
working loss <sup>18</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
flashing loss <sup>19</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTALS =</b>	<b>0.04</b>	<b>0.89</b>	<b>0.16</b>	<b>0.00</b>	<b>0.04</b>	<b>0.01</b>

**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: B  
 Permit: PTO 8240-R8  
 Date: 04/09/12  
 Tank: Wash Tank  
 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: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):	0

Liquid Data		
	A	B
maximum daily throughput (bopd) =		1,900
Ann thruput (gal): (enter value in Column A if not max PTE)		2.913E+07
RVP (psia):		2.1455
*API gravity =		25

Paint Factor Matrix		
paint color	paint condition	
	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

Computed Values	
roof outage <sup>1</sup> (feet):	0.3
vapor space volume <sup>2</sup> (cubic feet):	901
tumovers <sup>3</sup> :	231.17
tumover factor <sup>4</sup> :	0.3
paint factor <sup>5</sup> :	0.68
surface temperatures (*R, *F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.576496
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	1.07212
vapor density <sup>14</sup> (lb/cubic foot):	0.009475
vapor expansion factor <sup>15</sup> :	0.127
vapor saturation factor <sup>16</sup> :	0.931212
vented vapor volume (scf/bbl):	8
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

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 <sup>17</sup> =	0.04	0.89	0.16	0.00	0.04	0.01
working loss <sup>18</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
flashing loss <sup>19</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTALS =</b>	<b>0.04</b>	<b>0.89</b>	<b>0.16</b>	<b>0.00</b>	<b>0.04</b>	<b>0.01</b>

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

Basic Input Data	
liquid ID (1:G13, 2:G10, 3:G7, 4:C, 5:JP, 6:ker, 7:O2, 8:O6) =	4
liquid TVP =	3.2
is TVP entered, enter TVP temperature (°F) =	120
is tank heated (yes, no) =	no
if tank is heated, enter temp (°F) =	
is vapor recovery system present? (yes, no) =	yes
is this a wash tank? (yes, no) =	yes
do flashing losses occur in this tank? (yes, no) =	no
gather vent pressure setting range (psi) (def = 0.06):	0.06

Tank Data	
liquid diameter (feet) =	29.7
liquid storage capacity (gallons) =	3,000 126,000
is cylindrical or dome roof? (c, d) =	c
total liquid height (feet) =	24
liquid depth height (def = 1):	1
is liquid height (feet):	23
liquid color (1:Spec Al, 2:Diff Al, 3:Lite, 4:Med, 5:Rd, 6:Wh) =	4
condition (1: Good, 2: Poor) =	1
stream pressure (psig) (def = 0 when no flashing occurs):	0

Liquid Data	
maximum daily throughput (bopd) =	1,900
liquid throughput (gal): (enter value in Column A if not max PTE)	2.913E+07
liquid vapor pressure (psia):	2.1455
liquid gravity =	25

Computed Values	
liquid depth (feet):	0.3
liquid storage volume (cubic feet):	901
liquid volume (cubic feet):	231.17
liquid factor (1):	0.3
liquid factor (2):	0.68
liquid surface temperatures (°R, °F)	
	527.2 67.2
	539 79
	515.4 55.4
liquid factor (3):	0.75
liquid vapor ranges	
temperature (fahrenheit degrees):	47.2
vapor pressure (psia):	0.576496
liquid molecular weight (lb/lb-mol):	50
liquid P (psia) [adjusted for ave liquid surface temp]:	1.07212
liquid density (lb/cubic foot):	0.009475
liquid expansion factor (15):	0.127
liquid saturation factor (16):	0.931212
liquid vapor volume (scf/bbl):	8
liquid emission ROG - flashing losses:	0.308
liquid emission ROG - evaporative losses:	0.885

**Attachment C**

Permit: PTO 8240-R8  
 Date: 04/09/12  
 Tank: Wash Tank  
 Name: Newlove Lease  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT PRINT

paint color	paint condition	
	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

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

liquid	TVP value
	gas rvp 13
gas rvp 10	5.56
gas rvp 7	3.932
crude oil	1.07212
JP-4	1.516
jet kerosen	0.0103
fuel oil 2	0.009488
fuel oil 6	0.0000472

liquid	RVP value	
	RVP value	RVP value
gas rvp 13	13	13
gas rvp 10	10	10
gas rvp 7	7	7
crude oil	2.145500259	#NUM!
JP-4	2.7	2.7
jet kerosen	0.029	0.029
fuel oil 2	0.022	0.022
fuel oil 6	0.00019	0.00019

Long-Term  
 VRU\_Eff = 95.00% 95.00%

Short-Term  
 VRU\_Eff = 95.00% 95.00%

Emissions	Uncontrolled ROG emissions			Controlled ROG emissions		
	lb/hr	lb/day	ton/year	lb/hr	lb/day	ton/year
=	0.04	0.89	0.16	0.00	0.04	0.01
=	0.00	0.00	0.00	0.00	0.00	0.00
=	0.00	0.00	0.00	0.00	0.00	0.00
=	<b>0.04</b>	<b>0.89</b>	<b>0.16</b>	<b>0.00</b>	<b>0.04</b>	<b>0.01</b>

**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

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: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):	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 <sup>1</sup> (feet):	0.3
vapor space volume <sup>2</sup> (cubic feet):	3,013
turnovers <sup>3</sup> :	1095
turnover factor <sup>4</sup> :	0.19
paint factor <sup>5</sup> :	0.68
surface temperatures (°R, °F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.576496
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	1.07212
vapor density <sup>14</sup> (lb/cubic foot):	0.009475
vapor expansion factor <sup>15</sup> :	0.127
vapor saturation factor <sup>16</sup> :	0.679521
vented vapor volume (scf/bbl):	8
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

Emissions	Uncontrolled ROC emissions			Controlled ROC emissions		
	lb/hr	lb/day	ton/year	lb/hr	lb/day	ton/year
breathing loss <sup>17</sup> =	0.09	2.18	0.40	0.00	0.11	0.02
working loss <sup>18</sup> =	0.85	20.28	3.70	0.04	1.01	0.19
flashing loss <sup>19</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTALS =</b>	<b>0.94</b>	<b>22.46</b>	<b>4.10</b>	<b>0.05</b>	<b>1.12</b>	<b>0.20</b>

Attachment: D  
 Permit: POT 8240-R8  
 Date: 04/09/12  
 Tank: Crude Tank  
 Name: Newlove Lease  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT

paint color	paint condition	
	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	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%

**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 E  
 Permit: PTO 8240-R8  
 Date: 04/09/12  
 Tank: Wash Tank (Diatomite Project)  
 Name: Phase 1  
 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 thrupt (gal): (enter value in Column A if not max PTE)		3.066E+07
RVP (psia):		0.317
*API gravity =		13.3

paint color	Paint Factor Matrix	
	paint condition	
	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

Computed Values	
roof outage <sup>1</sup> (feet):	0.5
vapor space volume <sup>2</sup> (cubic feet):	1,060
tumovers <sup>3</sup> :	133.21
tumover factor <sup>4</sup> :	0.39
paint factor <sup>5</sup> :	0.68
surface temperatures (°R, °F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.060864
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	0.08279
vapor density <sup>14</sup> (lb/cubic foot):	0.000732
vapor expansion factor <sup>15</sup> :	0.09
vapor saturation factor <sup>16</sup> :	0.993461
vented vapor volume (scf/bbl):	12
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

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	0.439332
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 <sup>17</sup> =	0.00	0.06	0.01	0.00	0.00	0.00056
working loss <sup>18</sup> =	0.00	0.00	0.00	0.00	0.00	0.00000
flashing loss <sup>19</sup> =	0.23	5.41	0.99	0.01	0.27	0.04937
<b>TOTALS =</b>	<b>0.23</b>	<b>5.47</b>	<b>1.00</b>	<b>0.0114</b>	<b>0.27</b>	<b>0.05</b>

**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 <sup>1</sup> (feet):	0.8
vapor space volume <sup>2</sup> (cubic feet):	6,283
tumovers <sup>3</sup> :	260.71
tumover factor <sup>4</sup> :	0.28
paint factor <sup>5</sup> :	0.68
surface temperatures (°R, °F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.060864
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	0.08279
vapor density <sup>14</sup> (lb/cubic foot):	0.000732
vapor expansion factor <sup>15</sup> :	0.066
vapor saturation factor <sup>16</sup> :	0.946822

Attachment F  
 Permit: PTO 8240-R8  
 Date: 04/09/12  
 Tank: Crude Tank (Diatomite)  
 Name: Phase 1  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT

paint color	Paint Factor Matrix	
	paint condition	
	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

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

RVF	
liquid	
gas rvp 13	
gas rvp 10	
gas rvp 7	
crude oil	
JP-4	
jet kerosen	
fuel oil 2	
fuel oil 6	

Long-Term  
 VRU\_Eff =

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

Basic Input Data	
liquid (1:G 13, 2:G 10, 3:G 7, 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

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 <sup>1</sup> (feet):	0.8
vapor space volume <sup>2</sup> (cubic feet):	9,228
turnovers <sup>3</sup> :	260.71
turnover factor <sup>4</sup> :	0.28
paint factor <sup>5</sup> :	0.68
surface temperatures (°R, °F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	539 79
minimum <sup>8</sup> :	515.4 55.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.060864
molecular weight <sup>12</sup> (lb/lb-mol):	50
TVP <sup>13</sup> (psia) [adjusted for ave liquid surface temp]:	0.08279
vapor density <sup>14</sup> (lb/cubic foot):	0.000732
vapor expansion factor <sup>15</sup> :	0.066
vapor saturation factor <sup>16</sup> :	0.923794
vented vapor volume (scf/bbl):	12
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

Attachment: G  
 Permit: PTO 8240-R8  
 Date:  
 Tank: Reject Tank (Diatomite)  
 Name: Phase 1  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT

paint color	Paint Factor Matrix	
	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	molwt
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	0.439332
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 <sup>17</sup> =	0.02	0.36	0.07	0.00	0.02	0.00
working loss <sup>18</sup> =	0.05	1.15	0.21	0.00	0.06	0.01
flashing loss <sup>19</sup> =	0.17	4.06	0.74	0.01	0.20	0.04
<b>TOTALS =</b>	<b>0.23</b>	<b>5.58</b>	<b>1.02</b>	<b>0.01</b>	<b>0.28</b>	<b>0.05</b>

## FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

Page 1 of 2

ADMINISTRATIVE INFORMATION
Attachment: H
Company: Pacific Coast Energy
Facility: Newlove Lease
Processed by: JJM
April 9, 2012
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	62	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	Fitting	Composite	
	ROG Emission Factor Without Ethane	ROG Emission Factor Without Ethane	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<sup>(c)</sup>

	lbs/hr	lbs/day	tons/year
Valves and Fittings <sup>(a)</sup>	2.17	52.19	9.52
Sumps, Wastewater Tanks and Well Cellars <sup>(b)</sup>	1.30	31.14	5.68
Oil/Water Separators <sup>(b)</sup>	0.00	0.00	0.00
Pumps/Compressors/Well Heads <sup>(a)</sup>	0.04	1.01	0.18
Enhanced Oil Recovery Fields	0.00	0.00	0.00
<b>Total Facility FHC Emissions (ROC)</b>	<b>3.51</b>	<b>84.34</b>	<b>15.39</b>

- 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	62	wells
Wellhead emissions	0.6014	ROC (lb/well-day)
FHC from Pumps	0.2418	ROC (lb/well-day)
FHC from Compressors	4.2098	ROC (lb/well-day)
Total:	5.0530	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 <sup>2</sup> -day)
Secondary	0.0126	0.018	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	0.0087	(lb ROC/ft <sup>2</sup> -day)

**Surface Area and Type (emissions in lbs/day)**

Description/Name	Number	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
Well Cellars <sup>(a)</sup>	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	

(a) A 70% reduction is applied for implementation of Rule 344 (Sumps, Pits, and Well Cellars). 29.97      0.94      0.00

**Covered Wastewater Tanks**

Efficiency Factor: 85%

**Surface Area and Type (emissions in lbs/day)**

Description/Name	Number	Area (ft <sup>2</sup> )	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 <sup>2</sup> )	Primary	Secondary	Tertiary
			0.00		
Wastewater Tank	1	363.05		0.00 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)

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

## FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

Page 1 of 2

ADMINISTRATIVE INFORMATION
Attachment: I
Company: Pacific Coast Energy
Facility: Newlove Lease
Processed by: JJM
April 9, 2012
Path & File Name:

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

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

<u>Data</u>	<u>Value</u>	<u>Units</u>
Number of Active Wells at Facility	0	wells
Facility Gas Production		scf/day
Facility Dry Oil Production		bbbls/day
Facility Gas to Oil Ratio (if > 500 then default to 501)		scf/bbl
API Gravity	20	degrees API
Facility Model Number	6	dimensionless
No. of Steam Drive Wells with Control Vents	0	wells
No. of Steam Drive Wells with Uncontrolled Vents	0	wells
No. of Cyclic Steam Drive Wells with Control Vents	0	wells
No. of Cyclic Steam Drive Wells with Uncontrolled Vents	0	wells
Composite Valve and Fitting Emission Factor	4.2085	lb/day-well

Lease Model	Valve	Fitting	Composite	
	ROG Emission Factor Without Ethane	ROG Emission Factor Without Ethane	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<sup>(c)</sup>

	lbs/hr	lbs/day	tons/year
Valves and Fittings <sup>(a)</sup>	0.00	0.00	0.00
Sumps, Wastewater Tanks and Well Cellars <sup>(b)</sup>	0.20	4.87	0.89
Oil/Water Separators <sup>(b)</sup>	0.00	0.00	0.00
Pumps/Compressors/Well Heads <sup>(a)</sup>	0.00	0.00	0.00
Enhanced Oil Recovery Fields	0.00	0.00	0.00
<b>Total Facility FHC Emissions (ROC)</b>	<b>0.20</b>	<b>4.87</b>	<b>0.889</b>

- 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	0	wells
Wellhead emissions	0	ROC (lb/day)
FHC from Pumps	0	ROC (lb/day)
FHC from Compressors	0	ROC (lb/day)
Total:	<u>0.0000</u>	ROC (lb/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 <sup>2</sup> -day)
Secondary	0.0126	0.018	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	0.0087	(lb ROC/ft <sup>2</sup> -day)

Description/Name	Number	Surface Area and Type (emissions in lbs/day)			
		Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
Well Cellars <sup>(a)</sup>			0.00		
Truck Washout Pit #1	1	420		0.00	2.44
Truck Washout Pit #2	1	420			2.44
(a) A 70% reduction is applied for implementation of Rule 344 (Sumps, Pits, and Well Cellars).			0.00	0.00	4.87

**Covered Wastewater Tanks**

Efficiency Factor: 85%

Description/Name	Number	Surface Area and Type (emissions in lbs/day)			
		Area (ft <sup>2</sup> )	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%

Description/Name	Number	Surface Area and Type (emissions in lbs/day)			
		Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
			0.00		
				0.00	0.00
			0.00	0.00	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)

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

## FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

Page 1 of 2

ADMINISTRATIVE INFORMATION
Attachment: J
Company: Pacific Coast Energy
Facility: Newlove Lease
Processed by: JJM
April 9, 2012
Path & File Name:

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

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

<u>Data</u>	<u>Value</u>	<u>Units</u>
Number of Active Wells at Facility	0	wells
Facility Gas Production		scf/day
Facility Dry Oil Production		bbbls/day
Facility Gas to Oil Ratio (if > 500 then default to 501)		scf/bbl
API Gravity	13.3	degrees API
Facility Model Number	6	dimensionless
No. of Steam Drive Wells with Control Vents	0	wells
No. of Steam Drive Wells with Uncontrolled Vents	0	wells
No. of Cyclic Steam Drive Wells with Control Vents	0	wells
No. of Cyclic Steam Drive Wells with Uncontrolled 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<sup>(c)</sup>**

	lbs/hr	lbs/day	tons/year
Valves and Fittings <sup>(a)</sup>	0.00	0.00	0.00
Sumps, Wastewater Tanks and Well Cellars <sup>(b)</sup>	0.02	0.53	0.10
Oil/Water Separators <sup>(b)</sup>	0.00	0.00	0.00
Pumps/Compressors/Well Heads <sup>(a)</sup>	0.00	0.00	0.00
Enhanced Oil Recovery Fields	0.00	0.00	0.00
<b>Total Facility FHC Emissions (ROC)</b>	<b>0.02</b>	<b>0.529</b>	<b>0.097</b>

- 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	0	wells
Wellhead emissions	0	ROC (lb/day)
FHC from Pumps	0	ROC (lb/day)
FHC from Compressors	0	ROC (lb/day)
Total:	<u>0.0000</u>	ROC (lb/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 <sup>2</sup> -day)
Secondary	0.0126	0.018	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	0.0087	(lb ROC/ft <sup>2</sup> -day)

**Surface Area and Type (emissions in lbs/day)**

Description/Name	Number	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
Well Cellars <sup>(a)</sup>			0.00		
				0.00	
					0.00

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

0.00      0.00      0.00

**Covered Wastewater Tanks**

Efficiency Factor: 85%

**Surface Area and Type (emissions in lbs/day)**

Description/Name	Number	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
Mobile Sand Bin	1	140.00	0.00	0.26	
Mobile Sand Bin	1	140.00		0.26	
					0.00
			0.00	0.53	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 <sup>2</sup> )	Primary	Secondary	Tertiary
			0.00		
				0.00	
					0.00
			0.00	0.00	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)**

Description/Name	TP-MM Gal	Equipped with Cover	Equipped with VRS	Open Top	Total lb/day
		0.0			
			0.0		
				0.0	
		0.0	0.0	0.0	0.0

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION									
Attachment: K									
Company: Pacific Coast Energy									
Facility: Newlove Lease									
Processed by: JIM									
Date: 04/11/12									
Path & File Name:									
Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant									
Refinery									
Offshore Platform									
Component	Count <sup>(1)</sup>	ROC <sup>(2)</sup> Emission Factor (lbs/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lbs/day)	ROC Control Eff	Controlled ROC Emission (lbs/hr)	Controlled ROC Emission (lbs/day)	Controlled ROC Emission (Tons/Qttr)	Controlled ROC Emission (Tons/year)
<b>Gas Condensate Service</b>									
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
<b>Sub Total</b>	<b>3,194</b>			<b>100.51</b>		<b>0.838</b>	<b>20.102</b>	<b>0.917</b>	<b>3.669</b>
<b>Oil Service</b>									
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	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>2,726</b>			<b>3.557</b>		<b>0.03</b>	<b>0.71</b>	<b>0.03</b>	<b>0.13</b>
<b>Total</b>	<b>5,920</b>			<b>104.07</b>		<b>0.867</b>	<b>20.814</b>	<b>0.950</b>	<b>3.799</b>
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.									

Date: 04/06/12  
Attachment: L

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

**DATA**

Permit No. ....	P8240-R8
Owner/Operator .....	Pacific Coast Energy
Facility/Lease .....	Orcutt Hill
Boiler Type .....	Steam Generator
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 <sub>10</sub> Emission Factor .....	0.0060 lb/MMBtu
NO <sub>x</sub> Emission Factor .....	0.0110 lb/MMBtu
SO <sub>x</sub> Emission Factor .....	0.0040 lb/MMBtu
CO Emission Factor .....	0.0190 lb/MMBtu
ROC Emission Factor .....	0.0040 lb/MMBtu

**RESULTS**

	<u>lb/hr</u>	<u>lb/day</u>	<u>TPY</u>
Nitrogen Oxides (as NO <sub>2</sub> ) .....	0.69	16.50	3.01
Sulfur Oxides (as SO <sub>2</sub> ) .....	0.23	5.55	1.01
PM <sub>10</sub> .....	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	

## LOADING RACK EMISSION CALCULATION (ver 3.0)

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

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

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

**Total Uncontrolled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>H</sub> = (R)(42 gal/bbl)(L<sub>L</sub>/1000) = 15.59 lbs/hr

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD) = 97.45 lbs/day

**Annual**  
 THL<sub>A</sub> = (HLPY)((THL<sub>H</sub>)(1/2000)) = 1.90 TPY

**Total Controlled Hydrocarbon Losses:**

**Hourly**  
 THL<sub>HC</sub> = (THL<sub>H</sub>)(1-eff) = 0.78 lbs/hr

**Daily**  
 THL<sub>DC</sub> = (THL<sub>D</sub>)(1-eff) = 4.87 lbs/day

**Annual**  
 THL<sub>AC</sub> = (THL<sub>A</sub>)(1-eff) = 0.095 TPY

Processed by: Name

Date: June 5, 2012

**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 °F.

Revised: October 8, 2007

### 10.3 Fee Calculations

#### FEE STATEMENT

PT-70/Reeval No. 08240 - R8

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
107475	Wastewater Tank	A6	420.000	3.53	Per 1000 gal	No	1	1.000	1,482.60	0.00	0.00	1,482.60
109530	Steam Generator #1	A3	62.500	461.88	Per 1 mil Btu	Max	1	0.083	512.95	0.00	0.00	512.95
112492	Wellheads 31-34	A1.a	4.000	61.57	Per equipment	No	1	1.000	246.28	0.00	0.00	246.28
109487	Wash Tank #1	A6	230.160	3.53	Per 1000 gal	No	1	0.083	67.43	0.00	0.00	67.43
109488	Clean Oil Tank	A6	88.200	3.53	Per 1000 gal	No	1	0.083	25.84	0.00	0.00	25.84
109489	Reject Oil Tank	A6	88.200	3.53	Per 1000 gal	No	1	0.083	25.84	0.00	0.00	25.84
109486	Produced Water Tank	A6	117.600	3.53	Per 1000 gal	No	1	0.083	34.46	0.00	0.00	34.46
109497	Wellheads 1-30	A1.a	30.000	61.57	Per equipment	No	1	0.083	153.31	0.00	0.00	153.31
109516	Fugitive Components - Correlation Equation	A1.a	1.000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109482	Vapor Compressor	A2	20.000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109481	Vapor Compressor	A2	20.000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109463	VRU Inlet Heat Exchanger - Fin Fan	A2	5.000	31.92	Per total bhp	No	1	0.083	13.25	0.00	0.00	13.25
109464	VRU Compressor Discharge Heat Exchanger	A1.a	1.000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109483	VRU Condensate Pump	A2	0.500	31.92	Per total bhp	Min	1	0.083	5.08	0.00	0.00	5.08
109484	VRU Condensate Pump	A2	0.500	31.92	Per total bhp	Min	1	0.083	5.08	0.00	0.00	5.08
109495	Vapor Recovery Inlet Separator	A1.a	1.000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109496	Vapor Recovery Discharge Scrubber	A1.a	1.000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109462	Produced Gas Shell & Tube Heat Exchanger	A1.a	1.000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109465	HP Relief Condensate Pump	A2	5.000	31.92	Per total bhp	No	1	0.083	13.25	0.00	0.00	13.25
109466	Folsom N Well Manifold Pump	A2	40.000	31.92	Per total bhp	No	1	0.083	105.97	0.00	0.00	105.97
109467	Folsom N Well Manifold Pump	A2	40.000	31.92	Per total bhp	No	1	0.083	105.97	0.00	0.00	105.97
109470	Oil Tank Battery Sump Pump	A2	2.000	31.92	Per total bhp	No	1	0.083	5.30	0.00	0.00	5.30
109471	Produced Water Transfer Pump	A2	20.000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109474	Produced Water Transfer Pump	A2	20.000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109476	Reject Tank Pump	A2	10.000	31.92	Per total bhp	No	1	0.083	26.49	0.00	0.00	26.49

109477	Reject Tank Pump	A2	10,000	31.92	Per total bhp	No	1	0.083	26.49	0.00	0.00	26.49
109479	H2S Removal Vessel Drain	A2	20,000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109480	H2S Removal Vessel Drain Pump	A2	20,000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109490	Fuel Gas Scrubber	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109491	Three Phase Separator	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109492	Produced Gas Knockout Vessel	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109493	H2S Removal Vessel	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109494	H2S Removal Vessel	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109677	Filming Amine Injection System	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109678	Condensate Vessel - Low Point Drain	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109679	Progauging AWT #1	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109680	Progauging AWT #2	A1.a	1,000	61.57	Per equipment	No	1	0.083	5.11	0.00	0.00	5.11
109472	LACT Charge Pump	A2	20,000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109473	Sample Pump	A2	1,500	31.92	Per total bhp	Min	1	0.083	5.08	0.00	0.00	5.08
109475	LACT Charge Pump	A2	20,000	31.92	Per total bhp	No	1	0.083	52.99	0.00	0.00	52.99
109478	Oil Pan Drain Pump	A2	1,500	31.92	Per total bhp	Min	1	0.083	5.08	0.00	0.00	5.08
113476	Automatic Strainer	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113477	Free Gas Knockout Vessel	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113478	Desander #1	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113479	Desander #2	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113480	Desander #3	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113481	Mobile Sand Bin #1	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113482	Mobile Sand Bin #2	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113483	Sand Bin Pump #1	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113484	Sand Bin Pump #2	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113500	Field Knockout Vessel #2	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113501	Field Knockout Vessel Condensate Pump #2	A2	3,000	31.92	Per total bhp	No	1	1.000	95.76	0.00	0.00	95.76
113504	Main Knockout Vessel	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113505	Main Condensate Pump #1	A2	3,000	31.92	Per total bhp	No	1	1.000	95.76	0.00	0.00	95.76
113506	Main Condensate Pump #2	A2	3,000	31.92	Per total bhp	No	1	1.000	95.76	0.00	0.00	95.76
113507	Diatomite Gas Gathering Compressor #1	A2	60,000	31.92	Per total bhp	No	1	1.000	1,915.20	0.00	0.00	1,915.20
113508	Diatomite Gas Gathering Compressor #2	A2	10,000	31.92	Per total bhp	No	1	1.000	319.20	0.00	0.00	319.20
112495	Burner	A3	50,000	461.88	Per 1 mil Btu	Max	1	1.000	6,180.15	0.00	0.00	6,180.15
112497	Blower	A2	60,000	31.92	Per total bhp	No	1	1.000	1,915.20	0.00	0.00	1,915.20
113142	Hydrogen Sulfide Scrubber	A1.a	1,000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
113485	Crude Oil Loading Rack	A1.b	1,000	383.00	Per equipment	No	1	1.000	383.00	0.00	0.00	383.00
113871	Vacuum Truck Washout Pit #1	A1.b	1,000	383.00	Per equipment	No	1	1.000	383.00	0.00	0.00	383.00
109241	Vapor Recovery System	A2	3,000	31.92	Per total bhp	No	1	0.580	55.54	0.00	0.00	55.54
002973	Wash Tank	A6	126,000	3.53	Per 1000 gal	No	1	1.000	444.78	0.00	0.00	444.78
002974	Crude Oil Storage Tank	A6	42,000	3.53	Per 1000 gal	No	1	1.000	148.26	0.00	0.00	148.26
101176	Pit Pumps	A2	7,500	31.92	Per total bhp	No	2	1.000	478.80	0.00	0.00	478.80
101181	Charge Pump	A2	10,000	31.92	Per total bhp	No	1	1.000	319.20	0.00	0.00	319.20
101182	Sample Pump	A2	1,500	31.92	Per total bhp	Min	1	1.000	61.17	0.00	0.00	61.17
101183	Shipping Pump	A2	10,000	31.92	Per total bhp	No	1	1.000	319.20	0.00	0.00	319.20

002979	Wash Tank	A6	126.000	3.53	Per 1000 gal	No	1	1.000	444.78	0.00	0.00	444.78
101174	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101175	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101177	Spill Catch Pan	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101178	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101173	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
107854	Condensate Storage Vessel	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
112816	Oil & Gas Wells	A1.a	1.000	61.57	Per equipment	No	29	1.000	1,785.53	0.00	0.00	1,785.53
112825	Oil & Gas Wells	A1.a	1.000	61.57	Per equipment	No	5	1.000	307.85	0.00	0.00	307.85
101185	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101184	Wastewater Pit	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
112817	Automatic Well Tester	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101187	Gas/Liquid Separators	A1.a	1.000	61.57	Per equipment	No	4	1.000	246.28	0.00	0.00	246.28
101190	Blowdown Vessel Blowcase	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
101186	Weigh Meters	A1.a	1.000	61.57	Per equipment	No	8	1.000	492.56	0.00	0.00	492.56
101189	Blowdown Vessel	A1.a	1.000	61.57	Per equipment	No	1	1.000	61.57	0.00	0.00	61.57
110332	Wastewater Tank	A6	42.000	3.53	Per 1000 gal	No	1	0.444	65.83	0.00	0.00	65.83
112557	Vapor Recovery System	A2	15.000	31.92	Per total bhp	No	1	1.000	478.80	0.00	0.00	478.80
003042	Oil and Gas Wellheads	A1.a	1.000	61.57	Per equipment	No	56	1.000	3,447.92	0.00	0.00	3,447.92
109949	Wash Tank	A6	126.000	3.53	Per 1000 gal	No	1	0.361	160.57	0.00	0.00	160.57
	<b>Device Fee Sub-Totals =</b>								<b>\$25,417.40</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$25,417.40</b>
	<b>Device Fee Total =</b>											

**Permit Fee**

Fee Based on Devices **25,417.40**  
 Fee Adjustment Credit (PTO 12084-01) **3,079.00**

**Fee Statement Grand Total = \$22,338**

**Notes:**

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

# 10.4 IDS Database Emission Tables

Stationary Source NEI-90 Calculations  
 Pacific Coast Energy Company LP Orcutt Hill Stationary Source

Facility FNEI-90 at this SSN

Facility No.	Facility Name	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
3206	Cal Coast	0.00	0.00	11.72	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3313	Fox	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3314	Dome	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3316	Folsom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3318	Graciosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3319	Hartnell	0.00	0.00	1.25	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3320	Hobbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3321	Newlove	37.42	6.82	59.03	9.92	68.21	12.45	12.08	2.21	24.05	4.40	24.05	4.40
3322	Pinal	0.00	0.00	12.32	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3323	Rice Ranch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3324	Squires	0.00	0.00	0.85	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3495	Getty-Hobbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4104	Comp Plant	0.00	0.00	7.17	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4214	ICEs	11.04	0.24	0.60	0.01	9.27	0.21	0.58	0.01	0.06	0.01	0.06	0.01
10482	Steam Gens	6.05	1.09	4.26	0.77	10.49	1.91	2.04	0.37	3.31	0.60	3.31	0.60
1904	MVFF	0.00	0.00	0.20	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Totals</b>		<b>54.51</b>	<b>8.15</b>	<b>97.40</b>	<b>12.93</b>	<b>87.97</b>	<b>14.57</b>	<b>14.70</b>	<b>2.59</b>	<b>27.42</b>	<b>5.01</b>	<b>27.42</b>	<b>5.01</b>

Notes:

- (1) Facility NEI from IDS.
- (2) Totals only apply to permits for this facility ID. Totals may not appear correct due to rounding.
- (3) Because of rounding, values in this table shown as 0.00 are less than 0.005, but greater than zero.

## 10.5 Equipment List

Wednesday, April 18, 2012

### Santa Barbara County Air Pollution Control District – Equipment List

PT-70/Reeval 08240 R8 / FID: 03321 Newlove Lease / SSID: 02667

#### A PERMITTED EQUIPMENT

##### 1 Wastewater Tank

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

##### 2 Diatomite Project Phase 1

###### 2.1 Combustion - Phase 1

###### 2.1.1 Steam Generator #1

<i>Device ID #</i>	<b>109530</b>	<i>Device Name</i>	<b>Steam Generator #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	62.50 MMBtu/Hour
<i>Manufacturer</i>	BYIS Manuf	<i>Operator ID</i>	SG-100
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	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).		

## 2.2 Wellheads 31-34

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<i>Device ID #</i>	<b>112492</b>	<i>Device Name</i>	<b>Wellheads 31-34</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	4.00 Total Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	These wells are not equipped with well cellars		

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## 2.3 Tank Battery - Phase 1

### 2.3.1 Wash Tank #1

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<i>Device ID #</i>	<b>109487</b>	<i>Device Name</i>	<b>Wash Tank #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5480.00 BBL
<i>Manufacturer</i>	TARSCO	<i>Operator ID</i>	T-340
<i>Model</i>		<i>Serial Number</i>	3546-2
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	30' DIA x 32' HIGH		

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### 2.3.2 Clean Oil Tank

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<i>Device ID #</i>	<b>109488</b>	<i>Device Name</i>	<b>Clean Oil Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2100.00 BBL
<i>Manufacturer</i>	TARSCO	<i>Operator ID</i>	T-350
<i>Model</i>		<i>Serial Number</i>	3546-3
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	25' DIA x 24' HIGH		

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### 2.3.3 Reject Oil Tank

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<i>Device ID #</i>	<b>109489</b>	<i>Device Name</i>	<b>Reject Oil Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2100.00 BBL
<i>Manufacturer</i>	TARSCO	<i>Operator ID</i>	T-360
<i>Model</i>		<i>Serial Number</i>	3545-4
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	25' DIA x 24' HIGH		
<i>Description</i>			

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### 2.3.4 Produced Water Tank

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<i>Device ID #</i>	<b>109486</b>	<i>Device Name</i>	<b>Produced Water Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	2800.00 BBL
<i>Manufacturer</i>	TARSCO	<i>Operator ID</i>	T-330
<i>Model</i>		<i>Serial Number</i>	3546-1
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	25' DIA (490.87 SF) x 32' HIGH		
<i>Description</i>			

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## 2.4 Fugitive Components - Phase 1

### 2.4.1 Wellheads 1-30

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<i>Device ID #</i>	<b>109497</b>	<i>Device Name</i>	<b>Wellheads 1-30</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	30.00 Total Wells
<i>Manufacturer</i>		<i>Operator ID</i>	TBD
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>			
<i>Description</i>			

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## 2.4.2 Fugitive Components - Correlation Equation Method

<i>Device ID #</i>	<b>109516</b>	<i>Device Name</i>	<b>Fugitive Components - Correlation Equation Method</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	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		

## 2.5 Vapor Recovery Unit - Phase 1

### 2.5.1 Vapor Compressor

<i>Device ID #</i>	<b>109482</b>	<i>Device Name</i>	<b>Vapor Compressor</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer</i>		<i>Operator ID</i>	P-515B
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	200 MSCFD @ 20psig; part of VRU		

### 2.5.2 Vapor Compressor

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<i>Device ID #</i>	<b>109481</b>	<i>Device Name</i>	<b>Vapor Compressor</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	P-515A
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	200 MSCFD @ 20psig; part of VRU		

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### 2.5.3 VRU Inlet Heat Exchanger - Fin Fan

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<i>Device ID #</i>	<b>109463</b>	<i>Device Name</i>	<b>VRU Inlet Heat Exchanger - Fin Fan</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	H-510A
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	Part of VRU		

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### 2.5.4 VRU Compressor Discharge Heat Exchanger - Fin Fan

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<i>Device ID #</i>	<b>109464</b>	<i>Device Name</i>	<b>VRU Compressor Discharge Heat Exchanger - Fin Fan</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	H-510B
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	Part of VRU		

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### 2.5.5 VRU Condensate Pump

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<i>Device ID #</i>	<b>109483</b>	<i>Device Name</i>	<b>VRU Condensate Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	0.50 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	P-525A
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	Part of VRU		

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### 2.5.6 VRU Condensate Pump

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<i>Device ID #</i>	<b>109484</b>	<i>Device Name</i>	<b>VRU Condensate Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	0.50 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	P-525B
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	Part of VRU		

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### 2.5.7 Vapor Recovery Inlet Separator

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<i>Device ID #</i>	<b>109495</b>	<i>Device Name</i>	<b>Vapor Recovery Inlet Separator</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	V-500
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		

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### 2.5.8 Vapor Recovery Discharge Scrubber

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<i>Device ID #</i>	<b>109496</b>	<i>Device Name</i>	<b>Vapor Recovery Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	V-505
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		

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### 2.6 Miscellaneous Process Devices - Phase 1

#### 2.6.1 Produced Gas Shell & Tube Heat Exchanger

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<i>Device ID #</i>	<b>109462</b>	<i>Device Name</i>	<b>Produced Gas Shell &amp; Tube Heat Exchanger</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Ohmstede	<i>Operator ID</i>	H-305
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>			

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#### 2.6.2 HP Relief Condensate Pump

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<i>Device ID #</i>	<b>109465</b>	<i>Device Name</i>	<b>HP Relief Condensate Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Tuthill	<i>Operator ID</i>	P-345
<i>Model</i>	GG 50	<i>Serial Number</i>	G15514
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	38 gpm @ 60 ft TDH, 2" line, driver RPM = 1150		

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### 2.6.3 Folsom N Well Manifold Pump

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<i>Device ID #</i>	<b>109466</b>	<i>Device Name</i>	<b>Folsom N Well Manifold Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-250A
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F461 1W3
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	320 gpm @ 160 TDH, size: 3X4-13, driver rpm = 3500		

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### 2.6.4 Folsom N Well Manifold Pump

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<i>Device ID #</i>	<b>109467</b>	<i>Device Name</i>	<b>Folsom N Well Manifold Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-250B
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F462 1W3
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	320 gpm @ 160 TDH, size: 3X4-13, driver rpm = 3500		

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### 2.6.5 Oil Tank Battery Sump Pump

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

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### 2.6.6 Produced Water Transfer Pump

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

---

### 2.6.7 Produced Water Transfer Pump

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

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### 2.6.8 Reject Tank Pump

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

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### 2.6.9 Reject Tank Pump

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

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### 2.6.10 H2S Removal Vessel Drain

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<i>Device ID #</i>	<b>109479</b>	<i>Device Name</i>	<b>H2S Removal Vessel Drain</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-385A
<i>Model</i>	3196STX	<i>Serial Number</i>	727F462 2W2
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

---

### 2.6.11 H2S Removal Vessel Drain Pump

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<i>Device ID #</i>	<b>109480</b>	<i>Device Name</i>	<b>H2S Removal Vessel Drain Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-385B
<i>Model</i>	3196STX	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

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### 2.6.12 Fuel Gas Scrubber

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<i>Device ID #</i>	<b>109490</b>	<i>Device Name</i>	<b>Fuel Gas Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCL Ind Services	<i>Operator ID</i>	V-115
<i>Model</i>		<i>Serial Number</i>	20159-01
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2' DIA x 7' Shell; 200 psig @ 200F		

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### 2.6.13 Three Phase Separator

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<i>Device ID #</i>	<b>109491</b>	<i>Device Name</i>	<b>Three Phase Separator</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCL Ind Services	<i>Operator ID</i>	V-300
<i>Model</i>		<i>Serial Number</i>	20165-02
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	8' DIA x 32' Shell; 150 psig @ 550F		

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### 2.6.14 Produced Gas Knockout Vessel

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<i>Device ID #</i>	<b>109492</b>	<i>Device Name</i>	<b>Produced Gas Knockout Vessel</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCL Ind Services	<i>Operator ID</i>	V-315
<i>Model</i>		<i>Serial Number</i>	20159-03
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2.5' DIA x 10.0' Shell; 150 psig @ 540F		

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### 2.6.15 H2S Removal Vessel

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<i>Device ID #</i>	<b>109493</b>	<i>Device Name</i>	<b>H2S Removal Vessel</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCL Ind Services	<i>Operator ID</i>	V-380A
<i>Model</i>		<i>Serial Number</i>	20162-01
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	12' DIA x 30' Shell; 150 psig @ 550F		

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### 2.6.16 H2S Removal Vessel

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<i>Device ID #</i>	<b>109494</b>	<i>Device Name</i>	<b>H2S Removal Vessel</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	PCL Ind Services	<i>Operator ID</i>	V-380B
<i>Model</i>		<i>Serial Number</i>	20162-02
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	12' DIA x 30' Shell; 150 psig @ 550F		

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### 2.6.18 Condensate Vessel - Low Point Drain

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<i>Device ID #</i>	<b>109678</b>	<i>Device Name</i>	<b>Condensate Vessel - Low Point Drain</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	V-310
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	1' dia x 3' shell; atm press		
<i>Description</i>			

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### 2.6.19 Progauging AWT #1

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<i>Device ID #</i>	<b>109679</b>	<i>Device Name</i>	<b>Progauging AWT #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Progauging	<i>Operator ID</i>	V-400
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	2' dia x 3' shell; 400 psig @ 400F		
<i>Description</i>			

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### 2.6.20 Progauging AWT #2

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<i>Device ID #</i>	<b>109680</b>	<i>Device Name</i>	<b>Progauging AWT #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Progauging	<i>Operator ID</i>	V-405
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	2' dia x 3' shell; 400 psig @ 400F		
<i>Description</i>			

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## 2.7 Lease Automatic Custody Transfer - Phase 1

### 2.7.1 LACT Charge Pump

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

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### 2.7.2 Sample Pump

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

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### 2.7.3 LACT Charge Pump

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<i>Device ID #</i>	<b>109475</b>	<i>Device Name</i>	<b>LACT Charge Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	20.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	P-361B
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	110 gpm@50 ft TDH, size 2x2" line, driver rpm = 1750, part of LACT		

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#### 2.7.4 Oil Pan Drain Pump

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

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#### 2.9 Automatic Strainer

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<i>Device ID #</i>	<b>113476</b>	<i>Device Name</i>	<b>Automatic Strainer</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Hellan Strainer Co.	<i>Operator ID</i>	ME-695
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>			
<i>Description</i>			

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#### 2.10 Free Gas Knockout Vessel

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<i>Device ID #</i>	<b>113477</b>	<i>Device Name</i>	<b>Free Gas Knockout Vessel</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	V-670
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	7'3" dia by 20 feet s/s.		
<i>Description</i>			

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#### 2.11 Desander #1

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<i>Device ID #</i>	<b>113478</b>	<i>Device Name</i>	<b>Desander #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	

<i>Manufacturer</i>	Enerscope Systems Inc.	<i>Operator ID</i>	V-680
<i>Model</i>	ESI-0010	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	1300 - 2500 BPD, 63 inches long		

**2.12 Desander #2**

<i>Device ID #</i>	<b>113479</b>	<i>Device Name</i>	<b>Desander #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Enerscope Systems Inc.	<i>Operator ID</i>	V-685A
<i>Model</i>	ESI-0015	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2100 - 3700 BPD, 63 inches long		

**2.13 Desander #3**

<i>Device ID #</i>	<b>113480</b>	<i>Device Name</i>	<b>Desander #3</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Enerscope Systems Inc.	<i>Operator ID</i>	V-685B
<i>Model</i>	ESI-0015	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2100 - 3700 BPD, 63 inches long		

**2.14 Mobile Sand Bin #1**

<i>Device ID #</i>	<b>113481</b>	<i>Device Name</i>	<b>Mobile Sand Bin #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rain for Rent	<i>Operator ID</i>	ME-960
<i>Model</i>	25 Yard Turbo Vacuum Box	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	20 feet long by 7 feet wide by 5 feet deep, covered, vapor tight. Connected to vapor recovery when in service.		

**2.15 Mobile Sand Bin #2**

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<i>Device ID #</i>	<b>113482</b>	<i>Device Name</i>	<b>Mobile Sand Bin #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Rain for Rent	<i>Operator ID</i>	ME-690
<i>Model</i>	25 Yard Turbo Vacuum Box	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	20 feet long by 7 feet wide by 5 feet deep, covered, vapor tight.		
<i>Description</i>	Connected to vapor recovery when in service.		

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**2.16 Sand Bin Pump #1**

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<i>Device ID #</i>	<b>113483</b>	<i>Device Name</i>	<b>Sand Bin Pump #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>			
<i>Description</i>			

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**2.17 Sand Bin Pump #2**

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<i>Device ID #</i>	<b>113484</b>	<i>Device Name</i>	<b>Sand Bin Pump #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>			
<i>Description</i>			

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### 2.18 Field Knockout Vessel #2

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<i>Device ID #</i>	113500	<i>Device Name</i>	Field Knockout Vessel #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	V-703
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2 feet in diameter by 8 feet E/E. Serves Pod 1.		

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### 2.19 Field Knockout Vessel Condensate Pump #2

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<i>Device ID #</i>	113501	<i>Device Name</i>	Field Knockout Vessel Condensate Pump #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Horsepower (Electric Motor)
<i>Manufacturer</i>		<i>Operator ID</i>	P-707
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Serves Field Knock Vessel #2 at Pod 1.		

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### 2.20 Main Knockout Vessel

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<i>Device ID #</i>	113504	<i>Device Name</i>	Main Knockout Vessel
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	V-701
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	2 feet in diameter by 8 feet E/E		

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### 2.21 Main Condensate Pump #1

<i>Device ID #</i>	113505	<i>Device Name</i>	<b>Main Condensate Pump #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	P-702A
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>			

### 2.22 Main Condensate Pump #2

<i>Device ID #</i>	113506	<i>Device Name</i>	<b>Main Condensate Pump #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	P-702B
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>			

### 2.23 Diatomite Gas Gathering Compressor #1

<i>Device ID #</i>	113507	<i>Device Name</i>	<b>Diatomite Gas Gathering Compressor #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	60.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	K-700A
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>			

## 2.24 Diatomite Gas Gathering Compressor #2

<i>Device ID #</i>	113508	<i>Device Name</i>	Diatomite Gas Gathering Compressor #2
<i>Rated Heat Input</i>		<i>Physical Size</i>	60.00 Horsepower (Electric Motor)
<i>Manufacturer Model</i>		<i>Operator ID</i>	K-700B
<i>Location Note</i>	Newlove Lease	<i>Serial Number</i>	
<i>Device Description</i>			

## 3 Enclosed Thermal Oxidizer System

### 3.1 Burner

<i>Device ID #</i>	112495	<i>Device Name</i>	Burner
<i>Rated Heat Input</i>	50.000 MMBtu/Hour	<i>Physical Size</i>	50.00 MMBtu/Hour
<i>Manufacturer Model</i>	American Combustion Technologies, Inc.	<i>Operator ID</i>	
<i>Location Note</i>	Ultra Low NOx - 07G-MF	<i>Serial Number</i>	
<i>Device Description</i>	Newlove 67 Injection Site		
	When combusting natural gas or well gas, the burner is guaranteed by the manufacturer to operate below 12 ppm NOx, 3 ppm ROC, and 50 ppm CO, corrected to 3% excess oxygen.		
	Equipped with a Siemens LMV51 Linkageless Burner Management System.		

### 3.2 Burner Pilot

<i>Device ID #</i>	112499	<i>Device Name</i>	Burner Pilot
<i>Rated Heat Input</i>	0.100 MMBtu/Hour	<i>Physical Size</i>	0.10 MMBtu/Hour
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Location Note</i>		<i>Serial Number</i>	
<i>Device Description</i>	Newlove 67 Injection Site		

### 3.3 Combustion Chamber

<i>Device ID #</i>	<b>112496</b>	<i>Device Name</i>	<b>Combustion Chamber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>	Energy & Environment Inc.	<i>Operator ID</i>	
<i>Model</i>	E&E-50MM-ULN-HF	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 67 Injection Site		
<i>Device Description</i>	Dimensions: 22 feet long by 8 feet in diameter. Size: 12,000 - 22,000 scfm Operating Temperature - 1400 - 1800 F Forced draft Stack Dimensions: 19.5 feet high by 7.5 feet in diameter. Test ports located at 10 feet and 15.5 feet above ground level.		

### 3.4 Blower

<i>Device ID #</i>	<b>112497</b>	<i>Device Name</i>	<b>Blower</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	60.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	TBD	<i>Operator ID</i>	
<i>Model</i>	TBD	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 67 Injection Site		
<i>Device Description</i>			

### 3.5 Flow Meter

<i>Device ID #</i>	<b>112498</b>	<i>Device Name</i>	<b>Flow Meter</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Sierra Instruments	<i>Operator ID</i>	
<i>Model</i>	640S Mass Flow	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 67 Injection Site		
<i>Device Description</i>	Equipped with a VersaVu data logger. All results will be stored by the existing Orcutt Hill SCADA system.		

### 3.6 Valves - Gas Service

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<i>Device ID #</i>	112500	<i>Device Name</i>	Valves - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	15 clps		
<i>Description</i>			

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### 3.7 Flanges & Connections - Gas Service

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<i>Device ID #</i>	112501	<i>Device Name</i>	Flanges & Connections - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	50 clps		
<i>Description</i>			

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### 4 Hydrogen Sulfide Scrubber

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

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**5 Crude Oil Loading Rack**

<i>Device ID #</i>	<b>113485</b>	<i>Device Name</i>	<b>Crude Oil Loading Rack</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	160.00 BBL/Day
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Crude oil loading rack connected to the existing vapor recovery system.		

**6 Vacuum Truck Washout Pit #1**

<i>Device ID #</i>	<b>113871</b>	<i>Device Name</i>	<b>Vacuum Truck Washout Pit #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	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.		

**7 Vapor Recovery System**

<i>Device ID #</i>	<b>109241</b>	<i>Device Name</i>	<b>Vapor Recovery System</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Hy-Bon Engineering	<i>Operator ID</i>	
<i>Model</i>	HB 25	<i>Serial Number</i>	10719705
<i>Location Note</i>			
<i>Device Description</i>	Serving the wash tanks, crude storage tank, and wastewater tank. The vapor recovery efficiency is assumed to be 95% by weight at each vapor recovery point. The system is equipped with a Hybon Model HB 25 compressor (serial # 10719705), driven by a 3HP Baldor Industries electric motor (serial # F 0612220935).		

**8 Vacuum Truck Washout Pit #2**

<i>Device ID #</i>	<b>113872</b>	<i>Device Name</i>	<b>Vacuum Truck Washout Pit #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	Liquid Area = 5 ft x 12 ft = 60 sq ft		
<i>Description</i>	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.		

**9 Wash Tank**

<i>Device ID #</i>	<b>002973</b>	<i>Device Name</i>	<b>Wash Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3000.00 BBL
<i>Manufacturer</i>		<i>Operator ID</i>	5563
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	29.7' dia. by 24' high, connected to the vapor recovery system		
<i>Description</i>			

**10 Production Tank Battery**

**10.1 Crude Oil Storage Tank**

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

## 10.2 Pit Pumps

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

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## 10.3 LACT Transfer System

### 10.3.1 Charge Pump

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

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### 10.3.2 Sample Pump

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

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### 10.3.3 Shipping Pump

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

---

### 10.4 Wash Tank

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<i>Device ID #</i>	<b>002979</b>	<i>Device Name</i>	<b>Wash Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3000.00 BBL
<i>Manufacturer</i>		<i>Operator ID</i>	5587
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	29.7' dia. by 24' high, connected to the vapor recovery system		

---

### 10.5 Wastewater Pit

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

---

### 10.6 Wastewater Pit

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

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### 10.7 Spill Catch Pan

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

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### 10.8 Wastewater Pit

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

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### 10.9 Wastewater Pit

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

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### 10.10 Condensate Storage Vessel

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<i>Device ID #</i>	<b>107854</b>	<i>Device Name</i>	<b>Condensate Storage Vessel</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1055.00 Gallons
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

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### 11 Oil & Gas Wells

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<i>Device ID #</i>	<b>112816</b>	<i>Device Name</i>	<b>Oil &amp; Gas Wells</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	29.00 Installation
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	29 wells not equipped with well cellars		
<i>Description</i>			

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### 12 Oil & Gas Wells

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<i>Device ID #</i>	<b>112825</b>	<i>Device Name</i>	<b>Oil &amp; Gas Wells</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Active Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device</i>	Five oil & gas wells, numbers 327, 328, 400, 401, and 402. Wells not		
<i>Description</i>	equipped with cellars.		

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### 13 Wastewater Handling System at Newlove Flats

#### 13.1 Wastewater Pit

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

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#### 13.2 Wastewater Pit

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

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### 14 Automatic Well Tester

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

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**15 Newlove 67 Water Injection Facility**

**15.1 Gas/Liquid Separators**

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

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**15.2 Blowdown Vessel Blowcase**

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

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**15.3 Weigh Meters**

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<i>Device ID #</i>	<b>101186</b>	<i>Device Name</i>	<b>Weigh Meters</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	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)		
<i>Description</i>			

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#### 15.4 Blowdown Vessel

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

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#### 16 Wastewater Tank

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

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#### 17 Vapor Recovery System

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<i>Device ID #</i>	<b>112557</b>	<i>Device Name</i>	<b>Vapor Recovery System</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	15.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Hy-Bon Engineering	<i>Operator ID</i>	
<i>Model</i>	HB 50	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	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.		
<i>Description</i>			

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## 18 O&G Wells, Cellars and Unassociated Valves & Flanges

### 18.1 Oil and Gas Wellheads

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<i>Device ID #</i>	<b>003042</b>	<i>Device Name</i>	<b>Oil and Gas Wellheads</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	90.00 Total Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

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### 18.2 Well Cellars

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

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## 19 Wash Tank

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<i>Device ID #</i>	<b>109949</b>	<i>Device Name</i>	<b>Wash Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3000.00 BBL
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			29.7' dia. by 24' high, connected to the vapor recovery system.
<i>Description</i>			

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**B EXEMPT EQUIPMENT**

**1 Family Trap**

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<i>Device ID #</i>	<b>101188</b>	<i>Device Name</i>	<b>Family Trap</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>	<i>District Rule Exemption:</i>		
<i>Device Description</i>	10' dia. by 12' long, connected to the gas gathering system.		

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**2 Feed Water Heat Exchanger**

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<i>Device ID #</i>	<b>109500</b>	<i>Device Name</i>	<b>Feed Water Heat Exchanger</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	H-120
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>	<i>District Rule Exemption:</i>		
<i>Device Description</i>	Newlove Lease Part of Steam Generator (water conditioning system) preheats feed water using steam condensate.		

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**3 RO Feed Cooling Fin Fan**

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<i>Device ID #</i>	<b>109501</b>	<i>Device Name</i>	<b>RO Feed Cooling Fin Fan</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>	GEA Rainey 1-1030T108	<i>Operator ID</i>	H-245
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>	<i>District Rule Exemption:</i>		
<i>Device Description</i>	Newlove Lease Part of VSEP (water conditioning system)		

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**4 High Pressure Feed Water Pump**

<i>Device ID #</i>	<b>109502</b>	<i>Device Name</i>	<b>High Pressure Feed Water Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Wheatley	<i>Operator ID</i>	P-100
<i>Model</i>	Q4240	<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of Steam Generator water conditioning system		

**5 Supply Water Pump**

<i>Device ID #</i>	<b>109503</b>	<i>Device Name</i>	<b>Supply Water Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	30.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-200A
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F464 1W3
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**6 Supply Water Pump**

<i>Device ID #</i>	<b>109504</b>	<i>Device Name</i>	<b>Supply Water Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	30.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-200B
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F434 2W3
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**7 Reject Water Pump**

<i>Device ID #</i>	<b>109505</b>	<i>Device Name</i>	<b>Reject Water Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-225A
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F462 2W3
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**8 Reject Water Pump**

<i>Device ID #</i>	<b>109506</b>	<i>Device Name</i>	<b>Reject Water Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-225B
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F465 2W3
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**9 Feed Water Transfer Pump**

<i>Device ID #</i>	<b>109507</b>	<i>Device Name</i>	<b>Feed Water Transfer Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-235A
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F464 2W2
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**10 Feed Water Transfer Pump**

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<i>Device ID #</i>	<b>109508</b>	<i>Device Name</i>	<b>Feed Water Transfer Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Goulds	<i>Operator ID</i>	P-235B
<i>Model</i>	3196MTX	<i>Serial Number</i>	727F463 1W3
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**11 Supply Water Tank**

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<i>Device ID #</i>	<b>109510</b>	<i>Device Name</i>	<b>Supply Water Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	6850.00 BBL
<i>Manufacturer</i>	United Ind Group	<i>Operator ID</i>	T-210
<i>Model</i>		<i>Serial Number</i>	150615
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system); 35' DIA x 40' HIGH		

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**12 Intermediate Tank**

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<i>Device ID #</i>	<b>109511</b>	<i>Device Name</i>	<b>Intermediate Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	450.00 BBL
<i>Manufacturer</i>	United Ind Group	<i>Operator ID</i>	T-215
<i>Model</i>		<i>Serial Number</i>	150620
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>	Part of VSEP (water conditioning system); 12' 8" DIA x 20' HIGH		

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**13 Reject Water Holding Tank**

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<i>Device ID #</i>	<b>109512</b>	<i>Device Name</i>	<b>Reject Water Holding Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1340.00 BBL
<i>Manufacturer Model</i>	United Ind Group	<i>Operator ID</i>	T-220
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	150618
<i>Location Note</i>	District Rule Exemption:		
<i>Device Description</i>	Newlove Lease Part of VSEP (water conditioning system); 20' DIA x 24' HIGH		

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**14 Feed Water Storage Tank**

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<i>Device ID #</i>	<b>109513</b>	<i>Device Name</i>	<b>Feed Water Storage Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	6850.00 BBL
<i>Manufacturer Model</i>	United Ind Group	<i>Operator ID</i>	T-230
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	150616
<i>Location Note</i>	District Rule Exemption:		
<i>Device Description</i>	Newlove Lease Part of VSEP (water conditioning system); 35' DIA x 40' HIGH		

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**15 Nutshell Filter #1**

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<i>Device ID #</i>	<b>112558</b>	<i>Device Name</i>	<b>Nutshell Filter #1</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>	FDB-7P	<i>Operator ID</i>	
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	20173
<i>Location Note</i>	District Rule Exemption:		
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**16 Nutshell Filter #2**

<i>Device ID #</i>	<b>112559</b>	<i>Device Name</i>	<b>Nutshell Filter #2</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>	FDB-7P	<i>Serial Number</i>	20045
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**17 Clarifier**

<i>Device ID #</i>	<b>112560</b>	<i>Device Name</i>	<b>Clarifier</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Wemco	<i>Operator ID</i>	
<i>Model</i>	5-4C	<i>Serial Number</i>	802
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Wemco depurator. Part of VSEP (water conditioning system);		

**18 Steam Separator**

<i>Device ID #</i>	<b>109509</b>	<i>Device Name</i>	<b>Steam Separator</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	BYIS manuf	<i>Operator ID</i>	V-125
<i>Model</i>		<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	
<i>Location Note</i>	Newlove Lease		
<i>Device Description</i>			

**19 Steam Sample Cooler**

<i>Device ID #</i>	<b>109514</b>	<i>Device Name</i>	<b>Steam Sample Cooler</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	<b>H-101</b>
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease	<i>District Rule Exemption:</i>	
<i>Device Description</i>			

**20 Steam Sample Cooler**

<i>Device ID #</i>	<b>109515</b>	<i>Device Name</i>	<b>Steam Sample Cooler</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	<b>H-102</b>
<i>Part 70 Insig?</i>	No	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Lease	<i>District Rule Exemption:</i>	
<i>Device Description</i>			

**E DE-PERMITTED EQUIPMENT**

**1 Valves and Fittings**

<i>Device ID #</i>	<b>101191</b>	<i>Device Name</i>	<b>Valves and Fittings</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID</i>	
<i>Depermitted</i>		<i>Serial Number</i>	
<i>Device Description</i>	<i>Facility Transfer</i>		
	Valves, fittings and flanges, not directly associated with other permitted equipment items, which emit fugitive hydrocarbon emissions.		

**2 Fugitive Components - Correlation Equation Method**

<i>Device ID #</i>	<b>112493</b>	<i>Device Name</i>	<b>Fugitive Components - Correlation Equation Method</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	4.00 Active Wells
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Emissions calc based on Correlation Equation Method; low leak BACT component design; LDAR thresholds; monthly inspection		
	0 Compressor Seals Screened		
	120 Connectors Screened		
	44 Flanges Screened		
	0 Open-Ended Lines Screened		
	36 Other Screened		
	0 Pump Seals Screened		
	32 Valves Screened		

**3 Valves - Gas Service**

<i>Device ID #</i>	<b>112810</b>	<i>Device Name</i>	<b>Valves - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	251 clps		

**4 Flanges/Connections - Gas Service**

<i>Device ID #</i>	<b>112811</b>	<i>Device Name</i>	<b>Flanges/Connections - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	1,670 clps		

5 Valves - Gas Service

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<i>Device ID #</i>	112820	<i>Device Name</i>	Valves - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	48.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	48 clps		
<i>Description</i>			

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6 Connections/Flanges - Gas Service

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<i>Device ID #</i>	112821	<i>Device Name</i>	Connections/Flanges - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	292.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	292 clps		
<i>Description</i>			

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7 Valves - Oil Service

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<i>Device ID #</i>	112822	<i>Device Name</i>	Valves - Oil Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	40.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	40 clps		
<i>Description</i>			

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**8 Flanges/Connections - Oil Service**

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<i>Device ID #</i>	<b>112823</b>	<i>Device Name</i>	<b>Flanges/Connections - Oil Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	228.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	228 clps		

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**9 Pump Seals - Oil Service**

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<i>Device ID #</i>	<b>112824</b>	<i>Device Name</i>	<b>Pump Seals - Oil Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	5.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	5 clps		

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**10 Valves - Gas Service**

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<i>Device ID #</i>	<b>113144</b>	<i>Device Name</i>	<b>Valves - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	15 clps		

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11 Flanges/Connections - Gas Service

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<i>Device ID #</i>	<b>113145</b>	<i>Device Name</i>	<b>Flanges/Connections - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	69 clps		
<i>Description</i>			

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## 10.6 Permitted Wells Table

Attachment 10.6 Newlove Lease Permitted Wells

Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Newlove	1	<u>08302265</u>	Plugged	OG	36	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	2	<u>08302266</u>	Idle	OG	31	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	3	<u>08302267</u>	Active	OG	36	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	8	<u>08302269</u>	Plugged	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	12	<u>08302272</u>	Plugged	OG	36	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	15	<u>08302275</u>	Plugged	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	16	<u>08302276</u>	Plugged	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	18	<u>08302277</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	19	<u>08302278</u>	Active	OG	24	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	25	<u>08302284</u>	Idle	OG	19	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	27	<u>08302285</u>	Active	OG	26	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	29	<u>08302286</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	31	<u>08302287</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	32	<u>08302288</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	36	<u>08302291</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	37	<u>08302292</u>	Active	OG	30	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	40	<u>08302295</u>	Idle	OG	31	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	42	<u>08302297</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	46	<u>08302301</u>	Idle	OG	32	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	48	<u>08302303</u>	Idle	OG	32	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	51	<u>08302306</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	52	<u>08302307</u>	Active	OG	25	9N	34W	No

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Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Newlove	54	<u>08302308</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	55	<u>08302309</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	56	<u>08302310</u>	Active	OG	26	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	57	<u>08302311</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	58	<u>08302312</u>	Active	OG	35	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	62	<u>08302314</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	63	<u>08302315</u>	Idle	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	64	<u>08302316</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	65	<u>08302317</u>	Active	OG	26	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	68	<u>08302318</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	69	<u>08302319</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	71	<u>08302320</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	72	<u>08302321</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	73	<u>08302322</u>	Active	OG	26	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	74	<u>08302323</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	81	<u>08302326</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	82	<u>08302326</u>	Idle	OG	26	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	83	<u>08302328</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	84	<u>08302329</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	90	<u>08302332</u>	Idle	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	91	<u>08302333</u>	Idle	OG	30	9N	33W	No

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Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Newlove	92	<u>08302334</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	93	<u>08302335</u>	Idle	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	94	<u>08302336</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	95	<u>08302337</u>	Active	OG	19	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	96	<u>08302338</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	97	<u>08300956</u>	Plugged	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	99	<u>08302340</u>	Idle	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	100	<u>08300648</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	102	<u>08302342</u>	Idle	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	104	<u>08320320</u>	Plugged	OG	31	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	105	<u>08322227</u>	Active	OG	30	9N	33W	No
Breitburn Energy Co. LP	Orcutt	Newlove	106	<u>08320386</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	107	<u>08320510</u>	Idle	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	108	<u>08321433</u>	Active	OG	36	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	108	<u>08322212</u>	Active	OG	25	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	17A	<u>08321951</u>	Active	OG	35	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	200	<u>08321377</u>	Idle	OG	36	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	109	<u>08321892</u>	Plugged	OG	35	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Newlove	87	<u>08302330</u>	Plugged	OG	26	9N	34W	No

1. This table represents the number of active and idle oil and gas wells at this facility as reported by the DOGGR.
2. Section (S), Township (T) and Range, (R) is a surveyed rectangular land grid system that covers most of the United States. A township is the measure of units north or south of a baseline, the horizontal line where the survey began. A Range is the measure of units east or west of a meridian, the vertical line where the survey began. Each Township/Range is thirty-six square miles, measuring 6 miles by 6 miles, and contains 36 one-mile square sections. In California, there are three base and meridians, Humboldt, Mount Diablo, and San Bernardino.

Well Count	Operator	Field Name	Lease	Well#	API	Well Stat	Well Type	S	T	R	Pool Name	NEI
1	Breitburn	Orcutt	Newlove	111	08322525	Active	OG	31	9N	33W	Monterey	Yes
2	Breitburn	Orcutt	Newlove	112	08322524	Active	OG	30	9N	33W	Monterey	Yes
3	Breitburn	Orcutt	Newlove	113	08322526	Active	OG	30	9N	33W	Monterey	Yes
4	Breitburn	Orcutt	Newlove	300H	08322448	Active	OG	25	9N	34W	SX	Yes
5	Breitburn	Orcutt	Newlove	301	08322434	Active	OG	25	9N	34W	SX	Yes
6	Breitburn	Orcutt	Newlove	302	08322425	Active	OG	30	9N	33W	SX	Yes
7	Breitburn	Orcutt	Newlove	303	08322447	Active	OG	25	9N	34W	SX	Yes
8	Breitburn	Orcutt	Newlove	304	08322449	Active	OG	30	9N	33W	SX	Yes
9	Breitburn	Orcutt	Newlove	305H	08322502	Active	OG	36	9N	34W	SX	Yes
10	Breitburn	Orcutt	Newlove	306H	08322503	Active	OG	25	9N	34W	SX	Yes
11	Breitburn	Orcutt	Newlove	307H	08322506	Active	OG	31	9N	34W	SX	Yes
12	Breitburn	Orcutt	Newlove	308 H	08322510	Active	OG	25	9N	34W	SX	Yes
13	Breitburn	Orcutt	Newlove	309H	08322518	Active	OG	25	9N	34W	SX	Yes
14	Breitburn	Orcutt	Newlove	310H	08322514	Active	OG	25	9N	34W	SX	Yes
15	Breitburn	Orcutt	Newlove	311H	08322519	Active	OG	25	9N	34W	SX	Yes
16	Breitburn	Orcutt	Newlove	312H	08322515	Active	OG	25	9N	34W	SX	Yes
17	Breitburn	Orcutt	Newlove	313H	08322529	Active	OG	30	9N	33W	SX	Yes
18	Breitburn	Orcutt	Newlove	314H	08322531	Active	OG	30	9N	33W	SX	Yes
19	Breitburn	Orcutt	Newlove	315H	08322533	Active	OG	36	9N	34W	SX	Yes
20	Breitburn	Orcutt	Newlove	316H	8322542	Active	OG	36	9N	34W	SX	Yes
21	Breitburn	Orcutt	Newlove	317H	08322543	Active	OG	36	9N	34W	SX	Yes
22	Breitburn	Orcutt	Newlove	318H	08322544	Active	OG	25	8N	34W	SX	Yes
23	Breitburn	Orcutt	Newlove	321H	08322546	Active	OG	25	9N	34W	SX	Yes
24	Breitburn	Orcutt	Newlove	322H	08322547	Active	OG	25	9N	34W	SX	Yes
25	Breitburn	Orcutt	Newlove	325H	08322545	Active	OG	30	9N	33W	SX	Yes
26	Breitburn	Orcutt	Newlove	326H	08322548	Active	OG	30	9N	33W	SX	Yes
27	Breitburn	Orcutt	Newlove	355 I	08322520	Active	OG	25	9N	34W	SX	Yes
28	Breitburn	Orcutt	Newlove	356 I	08322516	Active	OG	25	9N	34W	SX	Yes
29	Breitburn	Orcutt	Newlove	357I	08322530	Active	OG	30	9N	33W	SX	Yes

Pacific Coast Energy/CO	Nashoe	400	<del>08822</del> 50	New	OL	05	New	Z5	9N	34W	SB	86127	524	06	Nash Area	Yes
Pacific Coast Energy/CO	Nashoe	401	<del>08822</del> 53	New	OL	05	New	Z5	9N	34W	SB	86127	524	06	Nash Area	Yes
Pacific Coast Energy/CO	Nashoe	402	<del>08822</del> 54	New	OL	05	New	Z5	9N	34W	SB	86127	524	06	Nash Area	Yes
Pacific Coast Energy/CO	Nashoe	327	<del>08822</del> 59	New	OD	05	New	Z1	9N	33W	SB	86127	524	06	Nash Area	Yes
Pacific Coast Energy/CO	Nashoe	328	<del>08822</del> 60	Active	O4	05	Active	Z1	9N	33W	SB	86127	524	06	Nash Area	Yes

## Diatomite Project Permitted Wells

Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Newlove	25-83B	<u>08322451</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83C	<u>08322452</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83D	<u>08322453</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83F	<u>08322454</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83A	<u>08322450</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83P	<u>08322463</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83O	<u>08322462</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83L	<u>08322461</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83K	<u>08322460</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83J	<u>08322457</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83G	<u>08322456</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83E	<u>08322455</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83M	<u>08322458</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-83N	<u>08322459</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	20-16Z	<u>08322439</u>	Plugged	OG	20	9N	33W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55A	<u>08322486</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55B	<u>08322487</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55C	<u>08322488</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55D	<u>08322489</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55E	<u>08322490</u>	Active	OG	25	9N	34W	Diatomite

continued on next page

Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Newlove	25-55K	<u>08322494</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55F	<u>08322491</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55G	<u>08322492</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55J	<u>08322493</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55L	<u>08322495</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55M	<u>08322496</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55N	<u>08322497</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55O	<u>08322498</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55Q	<u>08322500</u>	Active	OG	25	9N	34W	Diatomite
Breitburn Energy Co. LP	Orcutt	Newlove	25-55P	<u>08322499</u>	Active	OG	25	9N	34W	Diatomite

1. This table represents the number of active and idle oil and gas wells at this facility as reported by the DOGGR.
2. Section (S), Township (T) and Range, (R) is a surveyed rectangular land grid system that covers most of the United States. A township is the measure of units north or south of a baseline, the horizontal line where the survey began. A Range is the measure of units east or west of a meridian, the vertical line where the survey began. Each Township/Range is thirty-six square miles, measuring 6 miles by 6 miles, and contains 36 one-mile square sections. In California, there are three base and meridians, Humboldt, Mount Diablo, and San Bernardino.

## 10.7 Source Comments on Draft Permit/District Response

There were several minor comments on the draft permit. The requested revisions were made. Additional comments were received and are listed below with the District response. A complete list of PCEC comments is located in the source file.

PCEC Comment	District Response
There are two additional ATC's that have been issued that should be included in the table, they are ATC 13617 and ATC 13845.	A complete PTO application for these permit actions has not been received, therefore they cannot be included in this permit reevaluation.
Please remove reference for the 50 MMBtu Flare from the permit. On May 15 <sup>th</sup> the flare experienced permanent failure. Permit to Operate 13000 and Authority to Construct 13739 and 13739-01 have been cancelled by a letter sent from PCEC on May 21st.	This change has been made.
Permit Condition C.3(d)(i) is requiring that the oil is sampled annually for API gravity and TVP at <u>all</u> storage tanks. PCEC is requesting that is clarified to state that sampling will be conducted at the initial storage tank (wash tank), or other storage tanks if requested in writing by the District. This would be consistent with the other permits that require oil sampling.	This change has been made.
PCEC requests that the equipment fees associated with PTO 12084-01 are pro-rated. PTO 12084-01 was issued April 6, 2012; the fees assessed were \$3,260.52.	These fees have been prorated.
Emission Table 5.2 Tables A. B. C. and D. are not totaled properly, the Diatomite emissions have not been added to the Non- Diatomite total.	This table has been corrected.
Equipment List Section 18.1 Oil and Gas wellheads Device Number 003042 needs to be increased from 56 to 90.	This change has been made.



**Santa Barbara County  
Air Pollution Control District**

**JUN 15 2012**

Certified Mail 7011 3500 0002 7298 3798  
Return Receipt Requested

Chris Williamson  
Pacific Coast Energy Company  
515 S. Flower Street; Suite 4800  
Los Angeles, CA 90071

Re: Pacific Coast Energy Co. Orcutt Hill Stationary Source: Final Combined Part 70 Operating Permit and State Permit Nos. 11666, 8502, 9035, 8226, 8514, 9000, 9026, 9027, 9028, 8240, 9035, 8225, 9031, 8174, 8039, and 11405

Fee Due: \$ 73,446

Dear Mr. Williamson:

Enclosed are the final Part 70 Permit Renewal / Reevaluation (PT-70/Reeval) permits identified above for the Orcutt Hill Stationary Source. Please carefully review the enclosed documents to ensure that they accurately describe your facility and that the conditions are acceptable to you. Note that your permitted emission limits may, in the future, be used to determine emission fees.

You should become familiar with all District rules pertaining to your facility. This permit does not relieve you of any requirements to obtain authority or permits from other governmental agencies.

This permit requires you to:

- Pay a fee of \$73,446, which is due immediately and is considered late after 30 calendar days from the date stamped on the permit. Pursuant to District Rule 210.IV.B, no appeal shall be heard unless all fees have been paid. See the attached invoices for more information.
- Follow the conditions listed on your permits. Pay careful attention to the recordkeeping and reporting requirements.
- Ensure that a copy of the enclosed permits are posted or kept readily available near the permitted equipment.
- Promptly report changes in ownership, operator, or your mailing address to the District.

If you are not satisfied with the conditions of this permit, **you have thirty (30) days from the date of this issuance to appeal this permit to the Air Pollution Control District Hearing Board** (ref: California Health and Safety Code, §42302.1). Any contact with District staff to discuss the terms of this permit will not stop or alter the 30-day appeal period.

Please include the facility identification (FID) and permit numbers as shown at the top of this letter on all correspondence regarding this permit. If you have any questions, please contact Jim Menno of my staff at (805) 614-6787.

Sincerely,



Michael Goldman, Manager  
Engineering & Compliance Division

enc: Final Pt-70/Reeval 11666, 8502, 9035, 8226, 8514, 9000, 9026, 9027, 9028, 8240, 9035, 8225, 9031,  
8174, 8039, 11405  
Invoices  
Air Toxics "Hot Spots" Fact Sheet District Form 12B

cc: Orcutt Hill Lease 03321 Project File  
ECD Chron File  
Accounting (Invoice only)  
B. Ellenberger (Cover letter only)  
Jim Menno (Cover letter only)

\\sbcapcd.org\shares\Groups\ENGR\WP\Oil&Gas\Major Sources\SSID 02667 Pacific Coast Energy Orcutt Hill\03206 Cal Coast  
Lease\Reevals\Reeval 8226 R9\PT-70-Reeval 08240 R8 - Final Letter - 6-7-2012.doc



**Santa Barbara County  
Air Pollution Control District**

260 N San Antonio Rd, Suite A  
Santa Barbara, CA 93110-1315

Invoice: P7R 08240 - R8

Date: **JUN 15 2012**

Terms: Net 30 Days

300000/6600/3282

# INVOICE

**BILL TO:**

Accounts Payable  
Pacific Coast Energy Company LP (103494)  
600 Travis Street, Suite 4800  
Houston, TX 77002

**FACILITY:**

Newlove Lease  
03321

Permit: Part 70 Permit Renewal / Reevaluation (PT-70/Reeval) No. 08240 - R8

Fee Type: Permit Evaluation Fee (see the Fee Statement in your permit for a breakdown of the fees)

**Amount Due: \$ 22,338**

**REMIT PAYMENTS TO THE ABOVE ADDRESS**

Please indicate the invoice number P7R 08240 - R8  
on your remittance.

IF YOU HAVE ANY QUESTIONS REGARDING YOUR INVOICE PLEASE CONTACT  
OUR ADMINISTRATION DIVISION AT (805) 961-8800

The District charges \$25 for returned checks. Other penalties/fees may  
be incurred as a result of returned checks and late payment (see District Rule 210). Failure to pay this Invoice may result in the  
cancellation or suspension of your permit. Please notify the District regarding any changes to the above information