



**Santa Barbara County  
Air Pollution Control District**

**FINAL**

**PERMIT TO OPERATE 8240-R7  
and  
PART 70 RENEWAL OPERATING PERMIT 8240**

**BREITBURN ENERGY COMPANY LP (BREITBURN)  
ORCUTT HILL STATIONARY SOURCE  
NEWLOVE LEASE**

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

**OPERATOR**

**BreitBurn Energy Company LP**

**OWNERSHIP**

**BreitBurn Energy Company LP**

**Santa Barbara County  
Air Pollution Control District**

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

**June 2, 2009**



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## **ABBREVIATIONS/ACRONYMS**

AP-42	USEPA's <i>Compilation of Emission Factors</i>
APCD	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 (APCD) 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 APCD'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 APCD's Part 70 operating permit program. This permit is the third 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 BreitBurn 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 APCD, 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 "APCD-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.

## 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. The following transfers of ownership/operator have since taken place:

Date of Transfer	New Owner	New Operator
April 9, 1996	Nuevo Energy Company	Torch Operating Company

<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.

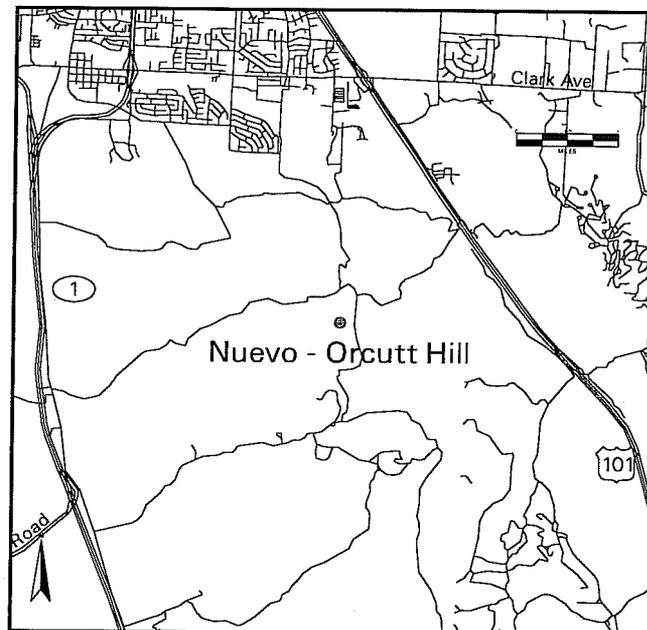
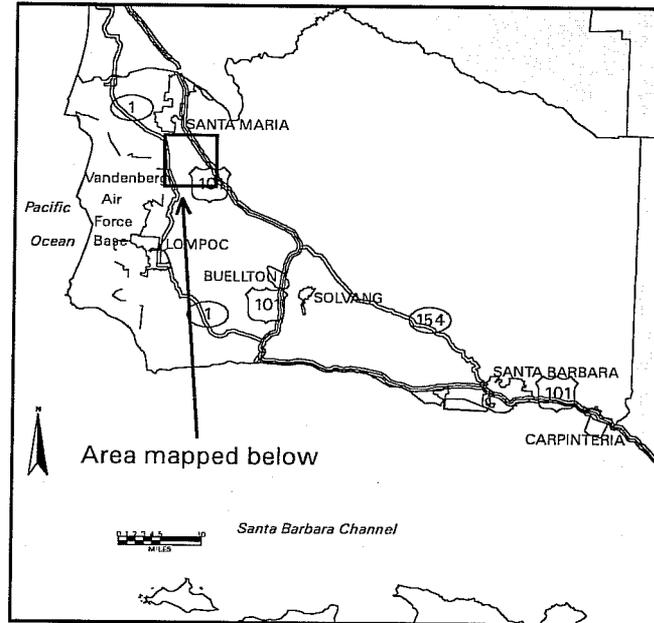
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company
November 5, 2004	BreitBurn Energy	BreitBurn Energy

For APCD 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> APCD Rule 102, Definition: "Northern Zone"

# BREITBURN - ORCUTT HILL STATIONARY SOURCE Stationary Source



**Figure 1.1 Location Map for the Newlove Lease**

The *BreitBurn 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; and
- Water polishing system.

Oil, water and gas are produced from 62 wells on the Newlove Lease and from 30 wells in the Diatomite Project. Electric motors or internal combustion engines (permitted under PTO 8039) drive the wells. This production, 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 Newlove Flats and the wastewater tank at the Newlove 67 injection facility. The oil is metered at the LACT unit and is shipped from the lease via a pipeline. The wastewater is reinjected into the producing formation. 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.

1.2.2 Facility New Source Review Overview: Most of the equipment on the Newlove Lease was in place and operating before a permit to operate was required. With the exception of the Diatomite project components, much of the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct. 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.

### **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 APCD's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

Field Operations:

- Sixty Two (62) 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;
- Nine (9) wastewater pits;
- One (1) spill catch pan; and
- Fugitive emission components in gas/liquid hydrocarbon service.

Diatomite Project:

- Thirty (30) oil and gas wells (plus two additional previously permitted field operations wells);
- One (1) 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; and
- 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 APCD 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 APCD 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 BreitBurn 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 APCD Rule 331 requirements and to maintain fugitive ROC emission limits under permitted limits (based on APCD Policy and Procedure 6100.072.1998).
- The storage tanks will be 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 will serve as the primary emission control for the H<sub>2</sub>S concentrations in the Diatomite produced gas, and in the Orcutt Hill Field produced gas to be blended with PUC 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 this project and that which is required to be treated by this system is 1050 Mscfd.

- The steam generators are 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**

Based on the NEI to date, there have been no offsets required for projects at the BreitBurn Orcutt Hill Stationary Source. If Phase 2 of the Diatomite project is pursued, then NOx and ROC offsets will need to be provided for the entire stationary source NEI. In addition no Emission Reduction Credits have been registered yet in association with the Newlove Lease. DOI 0046 was issued for generation of ERCs through electrification of 14 injection well pumps, and final ERC approval is pending.

## **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 APCD Rules, all conditions in the APCD-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 APCD 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, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. (*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 APCD. 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  
Vice President of Operations  
BreitBurn Energy Company  
515 S. Flower Street; Suite 4800  
Los Angeles, CA 90071

## **2.0 Process Description**

### **2.1 Process Summary**

#### **2.1.1 Production**

- a) Field: Oil, water, and gas are produced from 62 wells on the Newlove Lease and 30 wells in the Diatomite Project. Twenty-nine of the wells are equipped with a cellar that measures approximately six feet by six feet. None of the Diatomite Project wells are 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 will be 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 Newolve field operations.

#### **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 generators 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 APCD 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 nine wastewater pits and one spill catch pan.

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



APCD 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 BreitBurn to maintain a record of each *de minimis* change, which shall include emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the APCD upon request. Based on BreitBurn logs as of February 2009, the *de minimis* totals at the BreitBurn Orcutt Hill Stationary Source are: 12.64 lbs ROC/day. This total does not include the previously claimed emissions from the Sx Sands project (ATC 13140).
- **Section D.8 Routine Repair and Maintenance:** A permit shall not be required for routine repair or maintenance of permitted equipment, not involving structural changes.
- **Section D.14 Architectural Coatings:** Application of architectural coating in the repair and maintenance of a stationary structure is exempt from permit requirements.
- **Section U.2 Degreasing Equipment:** Single pieces of degreasing equipment, which use unheated solvent, and which: a) have a liquid surface area of less than 1.0 square foot unless the aggregate liquid surface area of all degreasers at a stationary source, covered by this exemption is greater than 10 square feet; and b) use only organic solvents with an initial boiling point of 302<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 APCD 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 APCD 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 APCD:

- 

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

APCD 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 APCD:

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

APCD 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.
- 

APCD 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 APCD 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 APCD'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.
- 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 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 APCD 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 BreitBurn.

- 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 APCD promulgated rules that are “generic” and apply to the Newlove Lease. Table 3.2 lists the federally-enforceable APCD promulgated rules that are “unit-specific” that apply to the Newlove Lease. These tables are based on data available from the APCD’s administrative files and from the permittee’s Part 70 Operating Permit renewal application filed on October 31, 2008. Table 3.4 includes the adoption dates of these rules.

In its Part 70 permit application, the permittee certified compliance with all existing APCD 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 APCD. These provisions are APCD-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 APCD-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: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable APCD promulgated rules that apply to the Newlove Lease. Table 3.4 lists the adoption date of all rules applicable to this permit at the date of this permit’s issuance.
- 3.4.2 Rules Requiring Further Discussion: The last facility inspection occurred on April 9, 2008. The inspector reported that the facility was in compliance with all APCD rules and PTO conditions. 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, APCD 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 APCD 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 the SBCAPCD rules and regulations. To the best of the APCD'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 APCD'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 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. The permittee has submitted an I&M Plan dated August 30, 2005 and received APCD approval of this Plan on September 27, 2005. Ongoing compliance with the many provisions of this rule will be assessed via inspection by APCD 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 APCD 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 APCD inspection.

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 APCD 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.

### **3.5 Compliance History**

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

- 3.5.1 Variances: Since March 2006, 2 variances have been granted. The variances are listed in Table 3.0-1 below:

**Table 3.0-1  
Variances Granted**

<b>Case No</b>	<b>Date</b>	<b>From</b>
11-07	04/03/07	APCD Rule 325.D.1.a due to Vapor Recovery Unit compressor.
21-08	07/01/08	APCD Rule 325.D.1.a due to facility wide electrical upgrade.

3.5.2 Violations: Since March 2006 one Notice of Violation (NOV) has been issued. The NOV is listed in Table 3.0-2 below:

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

<b>Type</b>	<b>Number</b>	<b>Issued</b>	<b>Description</b>
NOV	8983	02/19/08	Non-compliance with ATC 12084 (Condition 11) and Rule 325.E.1. In this case, on four instances between 2:46 AM (Jan 19 19-08) and 3:15 PM (Jan 20-08), Tank 330 remained in service without the benefit of an operating VRS.

3.5.3 Significant Historical Hearing Board Actions/NOVs: There are no significant historical Hearing Board actions or NOVs.

**Table 3.1 - Generic Federally-Enforceable APCD Rules**

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<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.
<u>RULE 205</u> : Standards for	All emission units	Emission of pollutants

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
Granting Permits		
<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 or rule requirements are not complied with.

<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	BreitBurn 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. Applications to generate ERC Certificates.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	BreitBurn Orcutt Hill is a major source.

**Table 3.2 - Unit-Specific Federally-Enforceable APCD 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. ID# 6-1
<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 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	Twenty-nine wells at this facility are equipped with a well cellar. Compliance with this rule provides a 70% reduction in well cellar ROC emissions. This rule also provides exemptions to sumps at this facility.

**Table 3.3 - Non-Federally-Enforceable APCD Rules**

<b>Requirement</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 210</u> : Fees	All emission units	Administrative

<b>Requirement</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 310</u> : Odorous Org. Sulfides	All emission units	Emission of organic sulfides
<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 APCD 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	May 20, 1999
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
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
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

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 18, 1997
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	January 18, 2001
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
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 353	Adhesives and Sealants	August 19, 1999
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 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 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 18, 2001
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 APCD'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 will be 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 will be fired on natural gas fuel.

4.2.2 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:

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

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

$$\text{MW NO}_x = 46.01 \text{ lb/lb-mole}$$

$$\text{MW ROC} = 16 \text{ lb/lb-mole}$$

$$\text{MW CO} = 28 \text{ lb/lb-mole}$$

$$\text{NO}_x \text{ Emission Factor} = 0.0110 \text{ lb/MMBtu} \quad (\text{Source: BACT Limit})$$

$$\text{ROC Emission Factor} = 0.0040 \text{ lb/MMBtu} \quad (\text{Source: BACT Limit})$$

$$\text{CO Emission Factor} = 0.0190 \text{ lb/MMBtu} \quad (\text{Source: BreitBurn Energy application})$$

Calculated ppm limits:

$$\text{NO}_x = 9 \text{ ppmvd}$$

$$\text{ROC} = 8.5 \text{ ppmvd}$$

CO = 27 ppmvd

4.2.3 **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 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 BreitBurn 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 emission factors pursuant to APCD 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*).

An emission control efficiency of 80-percent is credited to all components due to the implementation of an APCD-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 and ten wastewater pits. The total surface area of the wastewater pits is 108 square feet. 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 APCD 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 also 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 APCD'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 because the uncontrolled NO<sub>x</sub> and ROC Project Potential to Emit emissions from the project exceed the 25 lb/day criteria pollutant threshold for BACT. Compliance with BACT for Phase I was confirmed during the SCDP. FGR controls on the existing 23 MMBtu/hr steam generator were previously determined through APCD observed source testing to comply with the

BACT NOx limit of 9 ppmv (@3%O<sub>2</sub>). See Table 5.7 of the permit for BACT requirements of this project. To date, this facility has not triggered New Source Performance Standards (NSPS) National Emission Standards For Hazardous Air Pollutants (NESHAP) or Maximum Available Control Technology (MACT).

#### **4.8 CEMS/Process Monitoring/CAM**

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: 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: Breitburn - 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. 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 APCD 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 APCD 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 shall be based on the maximum expected operating temperature for each crude oil storage tank. TVP sampling methods for liquids with an API gravity under 20<sup>0</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. APCD 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 APCD uses a computer database to accurately track the emissions from a facility. Attachment 10.4 contains the APCD'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)
- ⇒ 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>)

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

<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

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

### **5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility**

Hazardous air pollutants (HAP) emission factors, for each type of emissions unit, are listed in Table 5.4-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.4-2.

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

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

### **5.7 Net Emissions Increase Calculation**

The Diatomite Project was a new project and all permitted emissions were included in the stationary source net emissions increase (NEI). The stationary source net emission increase calculation is used to determine whether certain requirements must be applied to a project (e.g., offsets, AQIA, PSD BACT).

Notes:

- 1) When Phase 2 is accounted for, the total stationary source NEI for NO<sub>x</sub> and ROC exceed the 55 pound per day threshold for requiring emission offsets. See Section 6.0 below for additional discussion.

- 2) The facility and stationary source NEI tables for the Newlove Lease facility now contain two separate NEI totals. The unadjusted facility and stationary source NEI includes the NEI contributions from both Phase 1 and 2 of ATC 12084. The adjusted facility and stationary source NEI omits the Phase 2 emissions portion of ATC 12084 and reflects the NEI emissions from Phase 1 only. This adjusted version will be used to determine if future permitting actions trigger offset requirements until such time as Phase 2 construction begins. At that time, offset determinations will be based on the unadjusted NEI and the adjusted NEI will no longer be applicable. If Phase 2 is never implemented, then the NEI will revert to the adjusted NEI track

The NEI for the facility presented in Attachment 10.4. The NEI for the entire BreitBurn Orcutt Hill Stationary Source (excluding ROC emissions increases at the Newlove lease for pending permit actions ATC 13140 and ATC 13141 and 13134) is as follows:

Table below summarizes Stationary Source NEI-90 as equal to sum of each facility's (unless footnoted by an enforceable NEI scenario)

Term	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
SSN NEI-90	66.59	10.35	59.25	8.65	105.26	17.70	19.28	3.42	30.37	5.54	30.37	5.54
Notes:	(1) Resultant SSN NEI-90 from above Section I thru IV data. (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. (4) Includes Phase 1 and 2 NEI under ATC 12084.											

Table below summarizes Stationary Source NEI-90 (adjusted)

Term	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
SSN NEI-90	33.59	4.33	32.54	4.42	48.26	7.30	8.17	1.39	12.37	2.25	12.37	2.25
Notes:	(1) This Stationary Source NEI (adjusted) is applicable to all stationary source offset determinations until such time Phase 2 construction begins under ATC 12084. See NEI discussion in Engineering Evaluation in PTO 12275 for more details.											

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**Table 5.1-1  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
Operating Equipment Description**

Equipment Category	Description	Dev No	Device Specifications				Usage Data				Maximum Operating Schedule			
			Feed	Parameter	Size	Units	Capacity	Units	Load	hr	day	qtr	year	References
Tanks	Wash Tank	002973	O/W	2,420	3,000 bbls	1,100 bbl/day	1.0	1.0	24	2,190	8,760	A		
	Wash Tank	109949	O/W	2,420	3,000 bbls	1,100 bbl/day	1.0	1.0	24	2,190	8,760	A		
	Wash Tank	002979	O/W	2,420	3,000 bbls	1,100 bbl/day	1.0	1.0	24	2,190	8,760	A		
	Crude Tank	002974	Oil	2,420	1,000 bbls	1,100 bbl/day	1.0	1.0	24	2,190	8,760	A		
	Wastewater Tank	110332	Water	2,420	1,000 bbls	--	1.0	1.0	24	2,190	8,760	B		
	Wastewater Tank	107475	Water	2,420	10,000 bbls	--	1.0	1.0	24	2,190	8,760	B		
Pits and Sumps	Well Cellars	003041	O/W	Service	1,044 ft <sup>2</sup>	--	1.0	1.0	24	2,190	8,760	B		
	Pits	Note A	O/W	Secondary	75 ft <sup>2</sup>	--	1.0	1.0	24	2,190	8,760	B		
	Spill Catch Pan	101177	O/W	Primary	5 ft <sup>2</sup>	--	1.0	1.0	24	2,190	8,760	B		
Fugitive Components	Valves, Connections, etc	002980	--	--	62 wells	--	1.0	1.0	24	2,190	8,760	C		
	Pumps/Compressors/Wellheads	003042	--	--	62 wells	--	1.0	1.0	24	2,190	8,760	C		

Note A: Device Number Pits are 101173, 101174, 101175, 101178, 101184, 101185

**Table 5.1-1D  
BreitBurn Newlove Lease: Diatomite Project  
Permit to Operate 8240-R7  
Operating Equipment Description**

Equipment Category	Description	Dev No	Device Specifications				Usage Data				Max Operating Schedule			
			Feed	Parameter	Size	Units	Capacity	Units	Load	hr	day	qtr	year	
Phase I														
Combustion	Steam Generator	109E30		PUC/prod gas	62.5	MMBTU/hr		1.0	1.0	24	2,190	8,760		
Tanks	Crude Tank	109488	Crude	1,800	2,100 bbls	1,500 bbl/day	1.0	1.0	24	2,190	8,760			
	Wash Tank	109487	O/W	3,000	5,480 bbls	2,000 bbl/day	1.0	1.0	24	2,190	8,760			
	Reject Tank	109489	O/W	3,000	2,100 bbls	1,500 bbl/day	1.0	1.0	24	2,190	8,760			
	Produced Water Tank	109486	Water	--	2,800 bbls	--	1.0	1.0	24	2,190	8,760			
Fugitive Components	Valves, Connectors, Flanges, etc.		--	Service	5,763 comp	0.31	ROC/TOC	1.0	1.0	24	2,190	8,760		
				Gas/Liq										

**Table 5.1-2  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
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>		
Tanks	Wash Tank	002973								
	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	Note A		0.0126						lb/ft <sup>2</sup> -day
	Spill Catch Pan	101177		0.0941						lb/ft <sup>2</sup> -day
Fugitive Components	Valves, Connections, etc	002980								
	Pumps/Compressors/Wellheads	003042								

See attached worksheets for emission factors.

**Table 5.1-2D  
BreitBurn Newlove Lease: Diatomite Project  
Permit to Operate 8240-R7  
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>			
Phase I Combustion	Steam Generator	109530	0.011	0.004	0.019	0.004	0.006	0.006	0.006	lb/MMBTU	A
	Tanks										
Fugitive Components	Crude Tank	109488									
	Wash Tank	109487									
	Reject Tank	109489									
	Produced Water Tank	109486		0.0004						lb/ft <sup>2</sup> -day	
Fugitive Components	Valves, Connectors, Flanges, etc.										
										lb/comp-day	B

See attached worksheets for emission factors.

See attached worksheet for emission factors.

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**  
**BreitBurn Newlove Lease: Permit to Operate 8240-R7**  
**Hourly and Daily Emissions**

Equipment Category	Description	Dev No	NO <sub>x</sub>		ROC		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>		Enforceability Basis	
			lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	Type	
Tanks	Wash Tank	002973	--	0.00	0.04	--	--	--	--	--	--	--	--	FE	PTO 8240R6	
	Wash Tank	109949	--	0.00	0.04	--	--	--	--	--	--	--	--	FE	ATC 12273	
	Wash Tank	002979	--	0.00	0.04	--	--	--	--	--	--	--	--	FE	ATC 6416	
	Crude Tank	002974	--	0.02	0.58	--	--	--	--	--	--	--	--	FE	ATC 6416	
	Wastewater Tank	110332	--	0.01	0.23	--	--	--	--	--	--	--	--	FE	ATC 12354	
	Wastewater Tank	107475	--	0.06	1.50	--	--	--	--	--	--	--	--	FE	ATC 11909	
Pits and Sumps	Well Cellars	003041	--	1.23	29.47	--	--	--	--	--	--	--	--	A	--	
	Pits	Note A	--	0.04	0.94	--	--	--	--	--	--	--	--	A	--	
	Spill Catch Pan	101177	--	0.02	0.50	--	--	--	--	--	--	--	--	--	--	
Fugitive Components	Valves, Connections, etc	002980	--	2.17	52.19	--	--	--	--	--	--	--	--	A	--	
	Pumps/Compressors/Wellheads	003042	--	0.04	1.01	--	--	--	--	--	--	--	--	A	--	

**Table 5.1-3D**  
**BreitBurn Newlove Lease: Diatomite Project**  
**Permit to Operate 8240-R7**  
**Hourly and Daily Emissions**

Equipment Category	Description	Dev No	NO <sub>x</sub>		ROC		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>	
			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 1														
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
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								
Fugitive Components	Valves, Connectors, Flanges, etc.			0.54	13.01									
<b>Phase 1 Subtotal</b>			<b>0.69</b>	<b>16.50</b>	<b>0.83</b>	<b>19.97</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>

Table 5.1-4  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NOx		ROC		CO		SOx		PM		PM <sub>10</sub>		Enforceability Basis	
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type	Basis
Tanks	Wash Tank	002973	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE	PTO 8240R6
	Wash Tank	109949	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE	ATC 12273
	Wash Tank	002979	--	--	0.00	0.01	--	--	--	--	--	--	--	--	FE	ATC 6416
	Crude Tank	002974	--	--	0.03	0.11	--	--	--	--	--	--	--	--	FE	ATC 6416
	Wastewater Tank	110332	--	--	0.01	0.04	--	--	--	--	--	--	--	--	FE	ATC 12354
	Wastewater Tank	107475	--	--	0.07	0.27	--	--	--	--	--	--	--	FE	ATC 11909	
Pits and Sumps	Well Cellars	003041	--	--	1.34	5.38	--	--	--	--	--	--	--	--	A	--
	Pits	Note A	--	--	0.04	0.17	--	--	--	--	--	--	--	--	A	--
	Spill Catch Pan	101177	--	--	0.02	0.09	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves, Connections, etc	002980	--	--	2.38	9.52	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads	003042	--	--	0.05	0.18	--	--	--	--	--	--	--	--	A	--

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

Table 5.1-4D  
BreitBurn Newlove Lease: Diatomite Project  
Permit to Operate 8240-R7  
Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NOx		ROC		CO		SOx		PM		PM <sub>10</sub>	
			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
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								
Fugitive Components	Valves, Connectors, Flanges, etc.				0.33	1.32								
<b>Phase 1 Subtotal</b>			<b>0.75</b>	<b>3.01</b>	<b>0.65</b>	<b>2.59</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>

**Table 5.2  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
Total Permitted Facility Emissions**

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Tanks	--	0.10	--	--	--	--
Pits and Sumps	--	1.29	--	--	--	--
Fugitive Components	--	2.22	--	--	--	--
	<b>0.00</b>	<b>3.61</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Tanks	--	2.43	--	--	--	--
Pits and Sumps	--	30.91	--	--	--	--
Fugitive Components	--	53.20	--	--	--	--
	<b>0.00</b>	<b>86.54</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**C. QUARTERLY (tpq)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Tanks	--	0.11	--	--	--	--
Pits and Sumps	--	1.41	--	--	--	--
Fugitive Components	--	2.43	--	--	--	--
	<b>0.00</b>	<b>3.95</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**D. ANNUAL (tpy)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Tanks	--	0.44	--	--	--	--
Pits and Sumps	--	5.64	--	--	--	--
Fugitive Components	--	9.71	--	--	--	--
	<b>0.00</b>	<b>15.79</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Table 5.2D**  
**BreitBurn Newlove Lease: Diatomite Project**  
**PTO 12084**  
**Phase 1 Project Permitted Emissions**

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

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Combustion	0.69	0.25	1.19	0.23	0.38	0.38
Tanks	--	0.04	--	--	--	--
Fugitive Components	--	0.54	--	--	--	--
	<b>0.69</b>	<b>0.83</b>	<b>1.19</b>	<b>0.23</b>	<b>0.38</b>	<b>0.38</b>

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

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Combustion	16.50	5.93	28.50	5.55	9.00	9.00
Tanks	--	1.04	--	--	--	--
Fugitive Components	--	13.01	--	--	--	--
	<b>16.50</b>	<b>19.97</b>	<b>28.50</b>	<b>5.55</b>	<b>9.00</b>	<b>9.00</b>

**C. QUARTERLY (tpq)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Combustion	0.75	0.27	1.30	0.25	0.41	0.41
Tanks	--	0.05	--	--	--	--
Fugitive Components	--	0.33	--	--	--	--
	<b>0.75</b>	<b>0.65</b>	<b>1.30</b>	<b>0.25</b>	<b>0.41</b>	<b>0.41</b>

**D. ANNUAL (tpy)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Combustion	3.01	1.08	5.20	1.01	1.64	1.64
Tanks	--	0.19	--	--	--	--
Fugitive Components	--	1.32	--	--	--	--
	<b>3.01</b>	<b>2.59</b>	<b>5.20</b>	<b>1.01</b>	<b>1.64</b>	<b>1.64</b>

**Table 5.3**  
**BreitBurn Newlove Lease: Permit to Operate 8240-R7**  
**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>
Tanks	--	0.10	--	--	--	--
Pits and Sumps	--	1.29	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.00</b>	<b>1.40</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

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

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Tanks	--	2.43	--	--	--	--
Pits and Sumps	--	30.91	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.00</b>	<b>33.35</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**C. QUARTERLY (tpq)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Tanks	--	0.11	--	--	--	--
Pits and Sumps	--	1.41	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.00</b>	<b>1.53</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**D. ANNUAL (tpy)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Tanks	--	0.44	--	--	--	--
Pits and Sumps	--	5.64	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.00</b>	<b>6.10</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Table 5.3D**  
**BreitBurn Newlove Lease: Diatomite Project**  
**PTO 12084**  
**Phase 1 Federal Potential to Emit**

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Combustion	0.69	0.25	1.19	0.23	0.38	0.38
Tanks	--	0.04	--	--	--	--
	<b>0.69</b>	<b>0.29</b>	<b>1.19</b>	<b>0.23</b>	<b>0.38</b>	<b>0.38</b>

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Combustion	16.50	5.93	28.50	5.55	9.00	9.00
Tanks	--	1.04	--	--	--	--
	<b>16.50</b>	<b>6.96</b>	<b>28.50</b>	<b>5.55</b>	<b>9.00</b>	<b>9.00</b>

**C. QUARTERLY (tpq)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Combustion	0.75	0.27	1.30	0.25	0.41	0.41
Tanks	--	0.05	--	--	--	--
	<b>0.75</b>	<b>0.32</b>	<b>1.30</b>	<b>0.25</b>	<b>0.41</b>	<b>0.41</b>

**D. ANNUAL (tpy)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Combustion	3.01	1.08	5.20	1.01	1.64	1.64
Tanks	--	0.19	--	--	--	--
	<b>3.01</b>	<b>1.27</b>	<b>5.20</b>	<b>1.01</b>	<b>1.64</b>	<b>1.64</b>

**Table 5.4D**  
**BreitBurn Newlove Lease: Diatomite Project**  
**Permit to Operate 8240-R7**  
**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 Components Month 1			Number of Components Month 2			Number of Components Month 3			THC SVRF (lb/comp-day)										
		leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	Total	leaks <10K	leaks ≥10K	leaks ≥10K								
Valves	Gas/Lt Liq	1079	1	1080	1080	0	1080	1080	0	1080	0	1080	1.85E-03	7.33E+00	0.31	87.94	18.84	18.84	2.89	0.06	0.25
Others	Gas/Lt Liq	530	1	531	531	0	531	531	0	531	0	531	1.27E-02	9.76E+00	0.31	155.50	63.59	63.59	5.11	0.14	0.57
Connectors	Gas/Lt Liq	2941	1	2942	2941	1	2942	2941	1	2942	1	2942	6.35E-04	1.37E+00	0.31	30.53	30.53	30.53	1.00	0.05	0.18
Flanges	Gas/Lt Liq	1197	1	1198	1198	0	1198	1198	0	1198	0	1198	1.48E-03	3.23E+00	0.31	47.16	16.72	16.72	1.55	0.04	0.16
Open-ended lines	Gas/Lt Liq	0	0	0	0	0	0	0	0	0	0	0	1.27E-03	2.90E+00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Compressors	Gas/Lt Liq	1	1	2	2	0	2	2	0	2	0	2	3.07E-02	3.80E+00	0.31	36.12	0.58	0.58	1.19	0.02	0.07
Pumps	Gas/Lt Liq	9	1	10	10	0	10	10	0	10	0	10	3.07E-02	3.80E+00	0.31	38.44	2.89	2.89	1.26	0.02	0.09
<b>Total</b>		<b>5757</b>	<b>6</b>	<b>5763</b>	<b>5762</b>	<b>1</b>	<b>5763</b>	<b>5762</b>	<b>1</b>	<b>5763</b>	<b>1</b>	<b>5763</b>							<b>13.01</b>	<b>0.33</b>	<b>1.32</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 5.5-1  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
Equipment Hazardous Air Pollutant Factors**

Equipment Category	Description	Dev No	Emission Factors							References
			Hexane	Benzene	Toluene	Xylene	Iso-Octane	Units		
Tanks	Wash Tank	002973	0.1107	0.0271	0.0158	0.0000	0.0000	lb/lb-ROC	CARB (1991) S.P. 297	
	Wash Tank	109949	0.1107	0.0271	0.0158	0.0000	0.0000	lb/lb-ROC	CARB (1991) S.P. 297	
	Wash Tank	002979	0.1107	0.0271	0.0158	0.0000	0.0000	lb/lb-ROC	CARB (1991) S.P. 297	
	Crude Tank	002974	0.1107	0.0271	0.0158	0.0000	0.0000	lb/lb-ROC	CARB (1991) S.P. 297	
	Wastewater Tank	110332	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Wastewater Tank	107475	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Pits and Sumps	Well Cellars	003041	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Pits	Note A	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Spill Catch Pan	101177	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Fugitive Components	Valves, Connections, etc	002980	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Pumps/Compressors/Wellheads	003042	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	

**Table 5.5-2  
BreitBurn Newlove Lease: Permit to Operate 8240-R7  
Daily and Annual Hazardous Air Pollution Emissions**

Equipment Category	Description	Dev No	Hexane		Benzene		Toluene		Xylene		Iso-Octane	
			lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year
Tanks	Wash Tank	002973	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Wash Tank	109949	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Wash Tank	002979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Crude Tank	002974	0.06	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
	Wastewater Tank	110332	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01
	Wastewater Tank	107475	0.27	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.04
Pits and Sumps	Well Cellars	003041	5.21	0.95	0.05	0.01	0.00	0.00	0.00	0.00	4.58	0.84
	Pits	Note A	0.17	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.03
	Spill Catch Pan	101177	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01
Fugitive Components	Valves, Connections, etc	002980	9.23	1.68	0.09	0.02	0.00	0.00	0.00	0.00	8.11	1.48
	Pumps/Compressors:Wellheads	003042	0.18	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.03
<b>Totals</b>			<b>15.25</b>	<b>2.78</b>	<b>0.17</b>	<b>0.03</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>13.34</b>	<b>2.43</b>

Note:  
Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose,  
including determination of HAP major source status for MACT applicability.

**Table 5.6  
Steam Generator Source Test Requirements**

<b>Emission Points</b>	<b>Pollutants/Parameters</b>	<b>Test Method</b>
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.
- 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.
- 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; only required upon written notification by the APCD.

**Table Notes**

ROC = Reactive Organic Compounds per APCD Rule 102  
Dtr = Determination

**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 BreitBurn 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 APCD 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 APCD 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 APCD 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 APCD’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 at the Orcutt Hill Stationary Source. 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 including an updated HRA will be required 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 has been classified as non attainment for the state eight-hour ozone standard as well as the state 24-hour and annual PM<sub>10</sub> ambient air quality standards. The County is either in attainment of or unclassified with respect to all other state ambient air quality standards.

Santa Barbara County's air quality has historically violated federal ozone standards. Since 1999, however, local air quality data show that every monitoring location in the County complied with the federal one-hour ambient air quality standard for ozone. The Santa Barbara County Air Pollution Control District adopted the 2001 Clean Air Plan (2001 CAP) that demonstrated attainment of the federal one-hour ozone standard and continued maintenance of that standard through 2015. Consequently, on August 8, 2003, the United States Environmental Protection Agency (USEPA) designated Santa Barbara County as an attainment area for the federal one-hour ozone standard.

On June 15, 2004, USEPA replaced the federal one-hour ozone standard with an eight-hour ozone standard. This eight-hour ozone standard, originally promulgated by USEPA on July 18, 1997, was set at 0.08 parts per million measured over eight hours and is more protective of public health and more stringent than the federal one-hour standard. In March 2008, USEPA lowered that standard to 0.075 parts per million. While USEPA has yet to formally designate Santa Barbara County with respect to the 0.075 parts per million standard, the state has recommended to USEPA that Santa Barbara County be designated as attainment.

Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with progress towards attainment or maintenance of federal and state ambient air quality standards. Under APCD regulations, any modifications at the source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs./day must apply BACT (NAR). Additional increases will trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 55 lbs/day for all non-attainment pollutants except PM<sub>10</sub> for which the level is 80 lbs/day. These thresholds apply to net emissions increases since November 15, 1990 as defined in District Rule 801.

### **7.2 Clean Air Plan**

On August 16, 2007, the APCD Board adopted the 2007 Clean Air Plan to chart a course of action that provided for ongoing maintenance of the federal eight-hour ozone standard through the year 2014 as well as the expeditious attainment of the state one-hour ozone standard. These plans were developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments. Santa Barbara County has now attained the state one-hour ozone standard but does not attain the state eight-hour ozone standard.

In 2010 the APCD will update those provisions of the 2007 Clean Air Plan which demonstrate expeditious attainment of the state eight-hour ozone standard. No changes will be made to the 2007 Clean Air Plan sections which demonstrate continued maintenance of the federal eight-hour ozone standard.

### **7.3 Offset Requirements**

The BreitBurn Orcutt Hill stationary source does not currently require emission offsets. BreitBurn is required to provide offsets for the net emission increase at least two weeks prior to the onset of construction of Phase 2 of the Diatomite project located on the Newlove Lease. BreitBurn shall offset the maximum quarterly NO<sub>x</sub> and ROC net emissions increase by reducing emissions at existing sources. Offset requirements for new projects at the Orcutt Hill stationary source prior to Phase 2 construction will be evaluated by excluding the Phase 2 contribution from the NEI total.

### **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 APCD 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 APCD'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., APCD only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the APCD, the State of California and the public. Conditions listed in Section D are enforceable only by the APCD 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 APCD 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, APCD 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 APCD, Rule 505 (Upset/Breakdown rule) and/or APCD 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 APCD, 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, APCD 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: APCD 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: APCD 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 APCD. 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 APCD 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: APCD Rule 1304.D.1]

A.6 **Payment of Fees.** The permittee shall reimburse the APCD 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 APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: APCD 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 APCD 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 APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [APCD 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 APCD 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: APCD 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 APCD-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 APCD upon request. [Re: APCD 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 APCD 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 APCD or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

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

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

- A.12 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for the APCO to petition for permit revocation pursuant to California Health & Safety Code Section 42307 *et seq.*
- A.13 **Consistency with Analysis:** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the APCD's project file), and with the APCD's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.
- A.14 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
- A.15 **Compliance.** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.

#### **9.B. Generic Conditions**

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. In case of a discrepancy between the wording of a condition and the applicable federal or APCD 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 APCD Rule 303. [Re: APCD 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: APCD 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: APCD 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: APCD 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: APCD 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: APCD 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: APCD 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: APCD 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 APCD 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 APCD 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 APCD 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: APCD 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: APCD Rule 202]

**9.C Requirements and Equipment Specific Conditions**

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

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

Dev No	Equipment
101191	Valves, flanges and other components in hydrocarbon service

- (a) Emission Limits: Fugitive emission limits are not federally-enforceable.
- (b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in APCD 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 APCD-approved I&M Plan dated August 30, 2005 (approved by the APCD on September 27, 2005) and any updates shall be implemented for the life of the project. The Plan, and any subsequent APCD 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 APCD 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 APCD-approved control device.

- (c) Monitoring: The equipment listed in this section are subject to all the monitoring requirements listed in APCD 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 APCD Rule 331.G.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

[Re: APCD Rules 331 and 1303, 40 CFR 70.6]

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

<b>Dev No</b>	<b>Equipment Name; Capacity</b>
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) All process operations from the equipment listed in this section shall meet the requirements of APCD Rules 325 Sections D, E, F and G. Rule 325.D require the tanks to be connected to vapor collection and removal device(s) prior to their operation, and the vapor removal efficiencies to be no less than 90-percent. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.
  - (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 APCD, 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 equipment listed in this section shall be subject to all the monitoring requirements of APCD Rule 325.H. The test methods outlined in APCD 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.
- (ii) On an annual basis, at the initial tank, or other storage tanks if requested in writing by the APCD, (1) the API gravity shall be measured and recorded, and (2) the true vapor pressure (TVP) at the maximum expected temperature of the crude oil shall be measured by using ASTM method D 323-82 (if API gravity is equal to or greater than 20 degrees) or the HOST Method (if API gravity is under 20 degrees), and recorded. Samples of crude oil shall be obtained from an active flow line into any tank sampled, or from the tank, provided that there is an active flow of crude oil into the tank.

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

- (d) Recordkeeping: The equipment listed in this section is subject to all the recordkeeping requirements listed in APCD 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 APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

[Re: 40 CFR 70.6, APCD Rules 206, 325, 343 and 1303]

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

<b>Dev No</b>	<b>Equipment Name; Capacity, Size</b>
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

- (a) Emission Limits: Mass emission for wastewater tanks (Dev No 110332) listed above shall not exceed the limits listed in Tables 5.1-3 and 5.1-4. Emissions from the pits are not federally-enforceable.
- (b) Operational Limits: All process operations for the equipment listed in this section shall meet the requirements of APCD Rules 325, 343 and 344. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.

Pursuant to Rule 343, Sections D, E, F and G, the permittee shall use a control device, approved in advance by the APCD, 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.

- (c) Monitoring: The equipment listed in this section is subject to all the monitoring requirements of APCD Rule 325.H. The test methods outlined in APCD Rule 325.G shall be used, when applicable. In addition, the permittee shall perform the following compliance monitoring:
- (i) For all degassing events, monitor the volume purged, characteristics of the vapor purged, and control device/method used.
- (d) Recordkeeping: The tanks listed in this section are subject to all the recordkeeping requirements listed in APCD Rule 325.F. In addition, the permittee shall record the following:
- (i) The permittee shall maintain a log of all degassing events, and record all the parameters listed in Section 9.C.3.(c)(i) above.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

[Re: 40 CFR 70.6, APCD Rules 325, 343, 344 and 1303.D.1.f]

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

<b>Dev No</b>	<b>Equipment Name; Capacity, Size</b>
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 APCD 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: APCD Rules 344.D.3 and 344.G.2)

C.5 **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:

<b>Solvent Type</b>	<b>lbs/hour</b>	<b>lbs/day</b>
Photochemically Reactive	8 lbs/hour	40 lbs/day

Non-Photochemically Reactive	450 lbs/hour	3,000 lbs/day
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- (b) **Operational Limits:** Use of solvents for cleaning/degreasing shall conform to the requirements of APCD 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 APCD for the disposal of any reclaimed solvent. If the Plan is approved by the APCD, 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 APCD 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 APCD-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 APCD inspection.
- (e) **Reporting:** On a semi-annual basis, a report detailing the previous six-month's activities shall be provided to the APCD. The report must list all data required by the *Semi-Annual Compliance Verification Reports* condition of this permit.

C.6 **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., 5763 comp

- (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 9.C.6.(g) 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.
- iii. *Heat Input Limits.* The hourly, daily and annual heat input limits to the steam generator under this permit (APCD 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 9.C.6.(c)ii and 9.C.6.(c)iii.

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

- iv. *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.
  - v. 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 APCD approved system.
- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
- i. The volumes of oil (in bbls) produced from each production phase shall be measured through the use of calibrated meters or through the use of an APCD-approved alternate method. The meters shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the APCD 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 an APCD-approved alternate method. The meters shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the APCD 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 an APCD-approved method. Records shall be kept on site and made available for inspection by the APCD upon request.
  - iv. On an annual basis, at Wash Tank T-340 (APCD Device No. 109487), or other storage tanks if requested in writing by the APCD, (1) the API gravity shall be

measured and recorded, and (2) the true vapor pressure (TVP) at the maximum expected temperature of the crude oil shall be measured by using ASTM method D 323-82 (if API gravity is equal to or greater than 20 degrees) or the HOST Method (if API gravity is under 20 degrees), and recorded. Samples of crude oil shall be obtained from an active flow line into any tank sampled, or from the tank, provided that there is an active flow of crude oil into the tank.

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

- v. 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 APCD.
- 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. Within 30 days of final issuance of this permit, BreitBurn shall submit for APCD review and approval an updated *Process Monitor Calibration and Maintenance Plan* to specify the O<sub>2</sub> burner windbox set point established for BACT compliance.
- vii. 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 APCD-approved analysis method. Sampling shall occur immediately downstream of the SulfaTreat system or other APCD approved sampling location..
- viii. 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 APCD-approved analysis method. Sampling shall occur immediately downstream of the 2" 150 psi mixing point, prior to combustion in the steam generator.
- ix. All monitoring shall be conducted in accordance with the APCD-approved *Process Monitor Calibration and Maintenance Plan*.
- x. 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 per permit Condition 9.C.6.(i).
- xi. A proximity switch shall be installed on each production storage tank pressure relief valve and hatch with the output signal sent to an APCD approved recording device to document the duration of any atmospheric releases of production gas.

- xii. 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 APCD 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 APCD 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 as determined per Condition 9.C.6.c.iv.
  - 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) per Condition 9.C.6.c.vii and viii.
  - 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 SulfaTreat reactant change-out for each vessel.
  - ix. Records required by the following APCD 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 listed in permit Condition 9.C.6.(i).
  - 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 as required in permit Condition 9.C.6.(i).
  - 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.
  - ixx. 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. (reference permit Condition 9.C.6.(c).xii).
- (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 APCD’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.

The previously permitted 23 MMBTU/hr steam generator (Device ID 104992) shall comply with the BACT standards in Table 5.7 for steam generators.

- (f) **Fugitive Hydrocarbon Components.** Fugitive hydrocarbon emissions shall be computed quarterly and annually consistent with APCD 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 APCD 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  $\geq 10K$  for leaking components). ROC/THC ratios are assigned to each component from APCD 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) Source Testing. The following source testing provisions shall apply:
- i. The permittee shall conduct source testing of air emissions and process parameters listed in Table 5.6 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the APCD, occur. Source testing shall be performed on an annual schedule in January of each year. Testing to determine ROC destruction efficiency shall only be required upon written notification by the APCD.
  - ii. The permittee shall submit a written source test plan to the APCD for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the APCD's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written APCD approval of the source test plan prior to commencement of source testing. The APCD 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 APCD personnel may observe the test.
  - iii. Source test results shall be submitted to the APCD 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 mass emission rates in Table 5.1-3D and 5.1-4D and applicable permit conditions and rules. For determining compliance with daily emission limits, the applicable pounds per day value in Table 5.1-3D shall be divided by 24 to convert to a "pounds per hour equivalent limit". If the source test "pounds per hour" result for a pollutant exceeds the

"pounds per hour equivalent limit", then the source is not in compliance with the pounds per day permitted limit for the applicable pollutant. All APCD 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 APCD Rule 210.

- iv. 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 APCD 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 APCD. 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 APCD. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without APCD'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 APCD 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 APCD at least three (3) days in advance of the deadline, and approval for the extension is granted by the APCD.

- (h) 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:

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.

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:

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 APCD 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 APCD 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

- (i) 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 entered into log maintained as required by permit Condition 9.C.6.(h). The log shall be available upon APCD request.

- C.7 **Recordkeeping.** The permittee shall maintain all records and logs required by this permit or any applicable federal rule or regulation for a minimum of five calendar years from the date of information collection and log entry at the lease. These records or logs shall be readily accessible and be made available to the APCD upon request.
- C.8 **Requirements for Produced Gas.** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) A system handling gas for fuel, sale, or underground injection; or (b) A flare that combusts reactive organic compounds; or (c) A device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.
- C.9 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the APCD 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 APCD. All logs and other basic source data not included in the report shall be available to the APCD 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 listed in permit Condition 9.C.6.(i).
- (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 (reference permit condition 9.C.6.(c).xii).
- (p) Annual NO<sub>x</sub> and ROC emissions from both permitted and exempt equipment.
- (q) Fugitive ROC emissions (tons) by quarter computed in accordance with Condition 9.C.6.(f).

C.10 **Documents Incorporated by Reference.** The documents listed below and any APCD 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 APCD inspection staff upon request.

- Enhanced Fugitive Hydrocarbon Inspection and Maintenance Plan for the Diatomite Project (APCD approved March 17, 2009)
- Process Monitor Calibration and Maintenance Plan for the Diatomite Project (APCD approved November 16, 2007)
- Fuel Use Monitoring Plan for the Diatomite Project (APCD approved August 25, 2008)

#### **9.D APCD-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 APCD 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 APCD Rule 206, this permit, as well as any applicable section of the California Health & Safety Code.

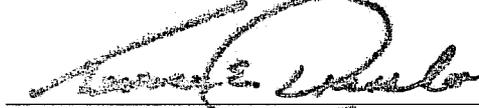
- D.1 **Condition Acceptance:** Acceptance of this operating permit by the permittee shall be considered as acceptance of all terms, conditions, and limits of this permit.
- D.2 **Defense of Permit:** The permittee agrees, as a condition of the issuance and use of this PTO, to defend at its sole expense any action brought against the APCD because of issuance of this permit. The permittee shall reimburse the APCD for any and all costs including, but not limited to, court costs and attorney's fees which the APCD may be required by a court to pay as a result of such action. The APCD may, at its sole discretion, participate in the defense of any such action, but such participation shall not relieve The permittee of its obligation under this condition. The APCD shall bear its own expenses for its participation in the action.
- D.3 **Facility Throughput Limitations.** The Newlove Lease production shall be limited to a monthly average of 1,100 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.4 **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.5 **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 APCD approved ASTM methods and must follow traceable chain of custody procedures.
- D.6 **Annual Compliance Verification Reports:** The permittee shall submit a report to the APCD, 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 APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. Pursuant to Rule 212, the annual report shall include a completed *APCD Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the APCD 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.7 **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 02 2009

Date

NOTES:

- (a) This permit supersedes all previous APCD 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 – NEWLOVE LEASE

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

### Reference A – Petroleum Storage Tanks

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

### Reference B – Pits, Sumps and Wastewater Tank

- The maximum operating schedule is in units of hours;
- Emission calculation methodology based on the CARB/KVB report *Emission Characteristics of Crude Oil Production Operations in California (1/83)*;
- Calculations are based on surface area of emissions noted in the inspector's report;
- All separator units are classified as secondary production and heavy oil service;
- The THC Speciation is based on CARB profiles # 529, 530, 531, 532; the ROC/TOC ratio is based on the APCD's guideline "*VOC/ROC Emission Factors and Reactivities for Common Source Types*" Table dated 07/13/98 (version 1.1).

### Reference C - Pipeline Components Emitting Fugitive ROCs

- Emission factors are based on the *APCD 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 D -- 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

Tank Data	
diameter (feet) =	29.7
capacity (enter barrels in first col, gals will compute) =	8050 126030
conical or dome roof? (c, d) =	c
shell height (feet) =	24
roof height (def = 1):	1
ave liq height (feet):	28
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) =		1.190
Ann thrupt (gal): (enter value in Column A if not max PTE)		1.686E+07
RVP (psia):		2.1455
*API gravity =		35

Computed Values	
roof outage <sup>1</sup> (feet):	0.8
vapor space volume <sup>2</sup> (cubic feet):	901
turnovers <sup>3</sup> :	133.83
turnover factor <sup>4</sup> :	0.89
paint factor <sup>5</sup> :	0.88
surface temperatures (*R, *F)	
average <sup>6</sup> :	527.2 67.2
maximum <sup>7</sup> :	530 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):	0.676496
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):	0.008475
vapor expansion factor <sup>15</sup> :	0.127
vapor saturation factor <sup>16</sup> :	0.981212
vented vapor volume (scf/bbl):	8
fraction ROG - flashing losses:	0.306
fraction ROG - evaporative losses:	0.885

	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>

NOTES: see attachment for explanation of notes (1 through 19)

Attachment: A<sup>1</sup>  
 Permit: PTO 8240  
 Date: 02/09/05  
 Tank: Wash Tank  
 Name: Newlove Lease  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls  
 PRINT

<sup>1</sup> Flashing losses removed 11/16/05

paint color	Paint Factor Matrix	
	paint condition	
	good	poor
spec alum	0.88	0.49
diff alum	0.60	0.68
lite grey	0.54	0.68
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	60
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	3.862
crude oil	1.07212
JP-4	1.516
jet kerosene	0.9103
fuel oil 2	0.009468
fuel oil 6	0.000472

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	0.0019

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 =	3.2
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: E  
 Permit: FTD 8240  
 Date: 03/09/09  
 Tank: Wash Tank  
 Name: Newlove Lease  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2buds

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

paint color	Paint Factor Matrix	
	paint condition	
	good	poor
spec alum	0.39	0.49
diff alum	0.60	0.68
lite grey	0.64	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

Liquid Data		A	B
maximum daily throughput (bopd) =			1.100
Ann thruput (gal): (enter value in Column A if not max PTE)		1.606E+07	
RVP (psia):		2.1465	
*API gravity =			25

Computed Values	
roof outage <sup>1</sup> (feet):	0.3
vapor space volume <sup>2</sup> (cubic feet):	901
turnovers <sup>3</sup> :	163.83
turnover 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):	0.676496
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):	3
fraction ROG - flashing losses:	0.398
fraction ROG - evaporative losses:	0.885

Adjusted TVP Matrix	
liquid	TVP value
gas rvp 13	7.408
gas rvp 10	5.56
gas rvp 7	3.362
crude oil	1.07212
JP-4	1.516
jet kerosene	0.0103
fuel oil 2	0.009468
fuel oil 6	0.000472

RVP Matrix	
liquid	RVP value
gas rvp 13	15
gas rvp 10	16
gas rvp 7	7
crude oil	2.1465
JP-4	2.7
jet kerosene	0.029
fuel oil 2	0.022
fuel oil 6	0.0019

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>

NOTES: see attachment for explanation of notes (1 through 19)

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

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

Attachment: C  
 Permit: FTO 8240  
 Date: 02/09/09  
 Tank: Crude Tank  
 Name: Newlove Lease  
 Filename: Santa Barbara  
 District: Tank-2b.xls  
 Version: Tank-2b.xls

PRINT

Tank Data	
diameter (feet) =	21.5
capacity (enter barrels in first col, gals will compute) =	1,000 42,000
conical or dome roof? (c, d) =	c
shell height (feet) =	16
roof height (def = 1):	1
ave liq height (feet):	8
color (1:Spec Al, 2: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) =			1,100
Ann thruput (gal): (enter value in Column A if not max PTE)		1.66E+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> :	401.5
turnover factor <sup>4</sup> :	0.24
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):	0.578496
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/obl):	8
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.685

paint color	paint condition	
	good	poor
spec alum	0.39	0.49
diff alum	0.50	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	0.9103
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> =	0.09	2.18	0.40	0.00	0.11	0.02
working loss <sup>18</sup> =	0.39	9.39	1.71	0.02	0.47	0.09
flashing loss <sup>19</sup> =	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTALS =</b>	<b>0.48</b>	<b>11.57</b>	<b>2.11</b>	<b>0.02</b>	<b>0.58</b>	<b>0.11</b>

NOTES: see attachment for explanation of notes (1 through 19)

BreitBurn Energy Company Diatomite Project  
**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

Permit: FTQ 12094  
 Date: 08/22/08  
 Tank: Crude Tank  
 Name: Phase 1  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT

Tank Data	
diameter (feet) =	25
capacity (enter barrels in first col, gals will compute) =	2100 88,200
conical or dome roof? (c, d) =	c
shell height (feet) =	2.4
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 thrupt (gal): (enter value in Column A if not max PTE)	2,500E+07	
RVP (psia):		0.317
*API gravity =		19.8

paint color	Paint Factor Matrix	
	paint condition	
	good	poor
spec alum	0.99	0.49
diff alum	0.66	0.66
lite grey	0.54	0.63
med grey	0.66	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	180
fuel oil 6	190

Computed Values	
roof outage <sup>1</sup> (feet):	0.8
vapor space volume <sup>2</sup> (cubic feet):	6,288
turnovers <sup>3</sup> :	268.71
turnover factor <sup>4</sup> :	0.29
paint factor <sup>5</sup> :	0.66
surface temperatures (*R, *F)	
average <sup>6</sup> :	527.2 57.2
maximum <sup>7</sup> :	539 70
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):	0.060804
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):	0.606732
vapor expansion factor <sup>15</sup> :	0.066
vapor saturation factor <sup>16</sup> :	0.946822
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	7.906
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	0.000472

RVP Matrix	
liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	0.245694594
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> =	0.01	0.25	0.05	0.00	0.01	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	4.08	0.74	0.01	0.26	0.04
<b>TOTALS =</b>	<b>0.23</b>	<b>5.47</b>	<b>1.00</b>	<b>0.0114</b>	<b>0.2733</b>	<b>0.0499</b>

BreitBurn Energy Company Diatomite Project  
**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

Permit: PTC 12094  
 Date: 09/22/08  
 Tank: Wash Tank  
 Name: Phase 1  
 Filename:  
 District: Santa Barbara  
 Version: Tank-08.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:Life, 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)		3.000E+07
RVP (psia):		0.317
*API gravity =		13.8

Computed Values	
roof outage <sup>1</sup> (feet):	0.6
vapor space volume <sup>2</sup> (cubic feet):	1,060
turnovers <sup>3</sup> :	123.21
turnover factor <sup>4</sup> :	0.80
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 65.4
product factor <sup>9</sup> :	0.75
diurnal vapor ranges	
temperature <sup>10</sup> (fahrenheit degrees):	47.2
vapor pressure <sup>11</sup> (psia):	0.000664
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):	0.009732
vapor expansion factor <sup>15</sup> :	0.09
vapor saturation factor <sup>16</sup> :	0.993461
vented vapor volume (scf/bbl):	1.2
fraction ROG - flashing losses:	0.308
fraction ROG - evaporative losses:	0.885

paint color	Paint Factor Matrix	
	good	poor
spec alum	0.59	0.49
diff alum	0.60	0.66
lite grey	0.54	0.63
med grey	0.66	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	60
jet kerosene	130
fuel oil 2	130
fuel oil 6	130

Adjusted TVP Matrix	
liquid	TVP value
gas rvp 13	7.908
gas rvp 10	5.50
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	0.009472

RVP Matrix	
liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	0.49332
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	0.00	0.01	0.00	0.00	0.00056
working loss <sup>18</sup> =	0.00	0.00	0.00	0.00	0.00	0.00050
flashing loss <sup>19</sup> =	0.23	5.41	1.09	0.01	0.27	0.04957
<b>TOTALS =</b>	<b>0.23</b>	<b>5.47</b>	<b>1.00</b>	<b>0.014</b>	<b>0.2736</b>	<b>0.0499</b>

BrettBurn Energy Company Diatomite Project  
**FIXED ROOF TANK CALCULATION (AP-42: Chapter 7 Method)**

Basic Input Data	
liquid (1:G13, 2:G10, 3:G7, 4:C, 5:JP, 6:ker, 7:O2, 8:O6) =	4
liquid TVP =	3
if TVP is entered, enter TVP temperature (*F) =	200
tank heated (yes, no) =	no
if tank is heated, enter temp (*F) =	
vapor recovery system present? (yes, no) =	yes
is this a wash tank? (yes, no) =	no
will flashing losses occur in this tank? (yes, no) =	yes
breather vent pressure setting range (psi) (def = 0.06):	0.4

Permit: FTO 12064  
 Date: 08/23/08  
 Tank: Reject Tank  
 Name: Phase 1  
 Filename:  
 District: Santa Barbara  
 Version: Tank-2b.xls

PRINT

Tank Data	
diameter (feet) =	25
capacity (enter barrels in first col, gals will compute) =	2,100 82,200
conical or dome roof? (c, d) =	c
shell height (feet) =	24
roof height (def = 1):	2.5
ave liq height (feet):	0
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

paint color	Paint Factor Matrix	
	paint condition	
	good	poor
spec alum	0.99	0.49
diff alum	0.60	0.66
lite grey	0.54	0.63
med grey	0.66	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	130

Liquid Data		
	A	B
maximum daily throughput (bopd) =		1,500
Ann thrupt (gal): (enter value in Column A if not max PTE)	2,000E+07	
RVP (psia):		0.317
*API gravity =		13.8

Computed Values	
roof outage <sup>1</sup> (feet):	0.8
vapor space volume <sup>2</sup> (cubic feet):	9,238
turnovers <sup>3</sup> :	269.71
turnover factor <sup>4</sup> :	0.29
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):	0.600864
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):	0.00732
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:	0.825

Adjusted TVP Matrix	
liquid	TVP value
gas rvp 13	7.906
gas rvp 10	5.56
gas rvp 7	3.932
crude oil	0.08279
JP-4	1.516
jet kerosene	0.0108
fuel oil 2	0.00488
fuel oil 6	0.000472

RVP Matrix	
liquid	RVP value
gas rvp 13	13
gas rvp 10	10
gas rvp 7	7
crude oil	0.43332
JP-4	2.7
jet kerosene	0.029
fuel oil 2	0.022
fuel oil 6	0.0019

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	0.67	0.00	0.02	0.00
working loss <sup>18</sup> =	0.05	1.15	0.21	0.00	0.00	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>0.0116</b>	<b>0.2788</b>	<b>0.0509</b>



## FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

Page 1 of 2

ADMINISTRATIVE INFORMATION
Attachment: A
Company: BreitBurn Energy
Facility: Newlove Lease
Processed by: AXR
April 2, 2009
Path & File Name:
\\sbcapcd.org\Shares\Groups\ENGR\WP\PT70SRCE\PERMITS\O&G-PROD\Breitburn Orcutt\Reevals\Third Reevals\Newlove Lease\PT70R 8240-R7 Newlove Lease

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 ROG Emission Factor Without Ethane	Fitting ROG Emission Factor Without Ethane	Composite ROG Emission Factor Without Ethane	lbs/day-well
	1	2	3	
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

Page 2 of 2  
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)

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

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



Date: 04/16/07

**BreitBurn Energy Company 62.5 MMBtu Steam Generator # 1**

**BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)**

DATA

Permit No. ....	A12084
Owner/Operator .....	BreitBurn
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 .....	0.0120 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		

### 10.3 Fee Calculations

#### FEE STATEMENT

PT-70/Reeval No. 08240 - R7

FID: 03321 Newlove Lease / SSID: 02667



Santa Barbara County  
Air Pollution Control District

#### 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	3.36	Per 1000 gallons	No	1	1.000	1,411.20	0.00	0.00	1,411.20
109530	Steam Generator	A3	62.500	440.07	Per 1 million Btu input	Max	1	0.083	488.73	0.00	0.00	488.73
109487	Wash Tank	A6	230.160	3.36	Per 1000 gallons	No	1	0.083	64.19	0.00	0.00	64.19
109488	Clean Oil Tank	A6	88.200	3.36	Per 1000 gallons	No	1	0.083	24.60	0.00	0.00	24.60
109489	Reject Oil Tank	A6	88.200	3.36	Per 1000 gallons	No	1	0.083	24.60	0.00	0.00	24.60
109486	Produced Water Tank	A6	117.600	3.36	Per 1000 gallons	No	1	0.083	32.80	0.00	0.00	32.80
109497	Wellheads 1-30	A1.a	30.000	58.66	Per equipment	No	1	0.083	146.06	0.00	0.00	146.06
109516	Fugitive Components - Correlation Equation Method	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109482	Vapor Compressor	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109481	Vapor Compressor	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109463	VRU Inlet Heat Exchanger - Fin Fan	A2	5.000	30.41	Per total rated hp	No	1	0.083	12.62	0.00	0.00	12.62
109464	VRU Compressor Discharge Heat Exchanger - Fin Fan	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109483	VRU Condensate Pump	A2	0.500	30.41	Per total rated hp	Min	1	0.083	4.84	0.00	0.00	4.84
109484	VRU Condensate Pump	A2	0.500	30.41	Per total rated hp	Min	1	0.083	4.84	0.00	0.00	4.84
109495	Vapor Recovery Inlet Separator	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87

109496	Vapor Recovery Discharged Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109462	Produced Gas Shell & Tube Heat Exchanger	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109465	HP Relief Condensate Pump	A2	5.000	30.41	Per total rated hp	No	1	0.083	12.62	0.00	0.00	12.62
109466	Folsom N Well Manifold Pump	A2	40.000	30.41	Per total rated hp	No	1	0.083	100.96	0.00	0.00	100.96
109467	Folsom N Well Manifold Pump	A2	40.000	30.41	Per total rated hp	No	1	0.083	100.96	0.00	0.00	100.96
109470	Oil Tank Battery Sump Pump	A2	2.000	30.41	Per total rated hp	No	1	0.083	5.05	0.00	0.00	5.05
109471	Produced Water Transfer Pump	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109474	Produced Water Transfer Pump	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109476	Reject Tank Pump	A2	10.000	30.41	Per total rated hp	No	1	0.083	25.24	0.00	0.00	25.24
109477	Reject Tank Pump	A2	10.000	30.41	Per total rated hp	No	1	0.083	25.24	0.00	0.00	25.24
109479	H2S Removal Vessel Drain	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109480	H2S Removal Vessel Drain Pump	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109490	Fuel Gas Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109491	Three Phase Separator	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109492	Produced Gas Knockout Vessel	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109493	H2S Removal Vessel	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109494	H2S Removal Vessel	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109677	Filming Amine Injection System	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109678	Condensate Vessel - Low Point Drain	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109679	Progauging AWT #1	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109680	Progauging AWT #2	A1.a	1.000	58.66	Per equipment	No	1	0.083	4.87	0.00	0.00	4.87
109472	LACT Charge Pump	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109473	Sample Pump	A2	1.500	30.41	Per total rated hp	Min	1	0.083	4.84	0.00	0.00	4.84
109475	LACT Charge Pump	A2	20.000	30.41	Per total rated hp	No	1	0.083	50.48	0.00	0.00	50.48
109478	Oil Pan Drain Pump	A2	1.500	30.41	Per total rated hp	Min	1	0.083	4.84	0.00	0.00	4.84
109241	Vapor Recovery System	A2	3.000	30.41	Per total rated hp	No	1	0.580	52.91	0.00	0.00	52.91
002974	Crude Oil Storage Tank	A6	42.000	3.36	Per 1000 gallons	No	1	1.000	141.12	0.00	0.00	141.12
002973	Wash Tank	A6	126.000	3.36	Per 1000 gallons	No	1	1.000	423.36	0.00	0.00	423.36
101176	Pit Pumps	A2	7.500	30.41	Per total rated hp	No	2	1.000	456.15	0.00	0.00	456.15

101181	Charge Pump	A2	10,000	30.41	Per total rated hp	No	1	1,000	304.10	0.00	0.00	304.10
101182	Sample Pump	A2	1,500	30.41	Per total rated hp	Min	1	1,000	58.28	0.00	0.00	58.28
101183	Shipping Pump	A2	10,000	30.41	Per total rated hp	No	1	1,000	304.10	0.00	0.00	304.10
002979	Wash Tank	A6	126,000	3.36	Per 1000 gallons	No	1	1,000	423.36	0.00	0.00	423.36
101174	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101175	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101177	Spill Catch Pan	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101178	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101173	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
107854	Condensate Storage Vessel	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101185	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101184	Wastewater Pit	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101187	Gas/Liquid Separators	A1.a	1,000	58.66	Per equipment	No	4	1,000	234.64	0.00	0.00	234.64
101190	Blowdown Vessel Blowcase	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
101186	Weigh Meters	A1.a	1,000	58.66	Per equipment	No	8	1,000	469.28	0.00	0.00	469.28
101189	Blowdown Vessel	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
110332	Wastewater Tank	A6	42,000	3.36	Per 1000 gallons	No	1	0.444	62.66	0.00	0.00	62.66
003042	Oil and Gas Wellheads	A1.a	1,000	58.66	Per equipment	No	56	1,000	3,284.96	0.00	0.00	3,284.96
101191	Valves and Fittings	A1.a	1,000	58.66	Per equipment	No	1	1,000	58.66	0.00	0.00	58.66
109949	Wash Tank	A6	126,000	3.36	Per 1000 gallons	No	1	0.361	152.83	0.00	0.00	152.83
	<b>Device Fee Sub-Totals =</b>								<b>\$9,979.24</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$9,979.24</b>
	<b>Device Fee Total =</b>											<b>\$9,979.24</b>

**Permit Fee**

Fee Based on Devices

9,979.24

**Fee Statement Grand Total = \$9,979**

Notes:

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



## 10.4 IDS Database Emission Tables

**Table 1**  
**Permitted Potential to Emit (PPTE)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b><i>PTO 8240 – Newlove Lease</i></b>						
lb/day		106.51				
tons/year		18.38				

**Table 2**  
**Facility Potential to Emit (FPTE)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b><i>PTO 8240 – Newlove Lease</i></b>						
lb/day		106.51				
tons/year		18.38				

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

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b><i>PTO 8240 – Newlove Lease</i></b>						
lb/day		40.32				
tons/year		7.37				

**Table 4**  
**Facility Net Emission Increase Since 1990 (FNEI-90)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b><i>PTO 8240 – Newlove Lease</i></b>						
lbs/day	16.50	25.35	28.50	5.55	9.00	9.00
tons/year	3.01	3.21	5.20	1.01	1.64	1.64

**Table 5**  
**Facility Exempt Emissions (FXMT)**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	TSP	PM <sub>10</sub>
<b><i>PTO 8240 – Newlove Lease</i></b>						
lbs/day	0.00	0.84	0.00	0.00	0.00	0.00
tons/year	0.00	0.15	0.00	0.00	0.00	0.00



## 10.5 Equipment List

PT-70/Reeval 08240 R7 / FID: 03321 Newlove Lease / SSID: 02667

### A Newlove Field Operations 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>	10,000.00 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 Lease-wide

#### 3 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>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<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).		

#### 4 Production Tank Battery

#### 4.1 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 Description</i>	21.5' in dia. by 15.4' high, connected to the vapor recovery system.		

## 4.2 Wash Tank

---

<b>Device ID #</b>	<b>002973</b>	<b>Device Name</b>	<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>			

---

## 4.3 Pit Pumps

---

<b>Device ID #</b>	<b>101176</b>	<b>Device Name</b>	<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>			

---

## 4.4 LACT Transfer System

### 4.4.1 Charge Pump

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<b>Device ID #</b>	<b>101181</b>	<b>Device Name</b>	<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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### 4.4.2 Sample Pump

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<b>Device ID #</b>	<b>101182</b>	<b>Device Name</b>	<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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#### 4.4.3 Shipping Pump

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<i>Device ID #</i>	101183	<i>Device Name</i>	Shipping Pump
<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>			

---

#### 4.5 Wash Tank

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<i>Device ID #</i>	002979	<i>Device Name</i>	Wash Tank
<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</i>	29.7' dia. by 24' high, connected to the vapor recovery system		
<i>Description</i>			

---

#### 4.6 Wastewater Pit

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<i>Device ID #</i>	101174	<i>Device Name</i>	Wastewater Pit
<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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#### 4.7 Wastewater Pit

---

<i>Device ID #</i>	101175	<i>Device Name</i>	Wastewater Pit
<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>	2' dia.		
<i>Description</i>			

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#### 4.8 Spill Catch Pan

<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>			

#### 4.9 Wastewater Pit

<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>			

#### 4.10 Wastewater Pit

<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>			

#### 4.11 Condensate Storage Vessel

<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>			

## 5 Wastewater Handling System at Newlove Flats

### 5.1 Wastewater Pit

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<i>Device ID #</i>	101185	<i>Device Name</i>	Wastewater Pit
<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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### 5.2 Wastewater Pit

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<i>Device ID #</i>	101184	<i>Device Name</i>	Wastewater Pit
<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>			

---

## 6 Wastewater Tank

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<i>Device ID #</i>	110332	<i>Device Name</i>	Wastewater Tank
<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>			

---

**7 Newlove 67 Water Injection Facility**

**7.1 Gas/Liquid Separators**

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<b>Device ID #</b>	<b>101187</b>	<b>Device Name</b>	<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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**7.2 Blowdown Vessel Blowcase**

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<b>Device ID #</b>	<b>101190</b>	<b>Device Name</b>	<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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**7.3 Weigh Meters**

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<b>Device ID #</b>	<b>101186</b>	<b>Device Name</b>	<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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#### 7.4 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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#### 8 O&G Wells, Cellars and Unassociated Valves & Flanges

##### 8.1 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>	62.00 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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##### 8.2 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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### 8.3 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</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Valves, fittings and flanges, not directly associated with other permitted equipment items, which emit fugitive hydrocarbon emissions.		
<i>Description</i>			

### 9 Wash Tank

<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>			

## B EXEMPT EQUIPMENT

### 1 Family Trap

<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</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device</i>	10' dia. by 12' long, connected to the gas gathering system.		
<i>Description</i>			

**C DIATOMITE PROJECT PERMITTED EQUIPMENT**

**1 Diatomite Phase 1**

**1.1 Combustion - Phase 1**

**1.1.1 Steam Generator**

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<b>Device ID #</b>	<b>109530</b>	<b>Device Name</b>	<b>Steam Generator</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>			
<i>Device</i>	Generator design: 1160 psig @ 564F		
<i>Description</i>	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).		

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**1.2 Tank Battery - Phase 1**

**1.2.1 Wash Tank**

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<b>Device ID #</b>	<b>109487</b>	<b>Device Name</b>	<b>Wash Tank</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>			
<i>Device</i>	30' DIA x 32' HIGH		
<i>Description</i>			

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**1.2.2 Clean Oil Tank**

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<b>Device ID #</b>	<b>109488</b>	<b>Device Name</b>	<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>			
<i>Device</i>	25' DIA x 24' HIGH		
<i>Description</i>			

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### 1.2.3 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>			
<i>Device Description</i>	25' DIA x 24' HIGH		

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### 1.2.4 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>			
<i>Device Description</i>	25' DIA (490.87 SF) x 32' HIGH		

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## 1.3 Fugitive Components - Phase 1

### 1.3.1 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>			
<i>Device Description</i>			

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### 1.3.2 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>			
<i>Device Description</i>	Emissions calc based on Correlation Equation Method; low leak BACT component design; LDAR thresholds; monthly inspection		
	2 Compressor Seals Screened		
	2942 Connectors Screened		
	1198 Flanges Screened		
	0 Open-Ended Lines Screened		
	531 Other Screened		
	10 Pump Seals Screened		
	1080 Valves Screened		

### 1.4 Vapor Recovery Unit - Phase 1

#### 1.4.1 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>			
<i>Device Description</i>	200 MSCFD @ 20psig; part of VRU		

#### 1.4.2 Vapor Compressor

<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</i>		<i>Operator ID</i>	P-515A
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	200 MSCFD @ 20psig; part of VRU		

### 1.4.3 VRU Inlet Heat Exchanger - Fin Fan

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

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

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

### 1.4.5 VRU Condensate Pump

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

#### 1.4.6 VRU Condensate Pump

<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</i>		<i>Operator ID</i>	P-525B
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Part of VRU		
<i>Description</i>			

#### 1.4.7 Vapor Recovery Inlet Separator

<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</i>		<i>Operator ID</i>	V-500
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		
<i>Description</i>			

#### 1.4.8 Vapor Recovery Discharge Scrubber

<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>			
<i>Device</i>	1' DIA x 5' Shell; 100 psig @ 200F; part of VRU		
<i>Description</i>			

## 1.5 Miscellaneous Process Devices - Phase 1

### 1.5.1 Produced Gas Shell & Tube Heat Exchanger

<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>			
<i>Device</i>			
<i>Description</i>			

### 1.5.2 HP Relief Condensate Pump

<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>			
<i>Device</i>	38 gpm @ 60 ft TDH, 2" line, driver RPM = 1150		
<i>Description</i>			

### 1.5.3 Folsom N Well Manifold Pump

<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>			
<i>Device</i>	320 gpm @ 160 TDH, size: 3X4-13, driver rpm = 3500		
<i>Description</i>			

#### 1.5.4 Folsom N Well Manifold Pump

<b>Device ID #</b>	<b>109467</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	320 gpm @ 160 TDH, size: 3X4-13, driver rpm = 3500		

#### 1.5.5 Oil Tank Battery Sump Pump

<b>Device ID #</b>	<b>109470</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	Line size: 2"; 40 gpm@ 50' TDH; driver = 3600 rpm		

#### 1.5.6 Produced Water Transfer Pump

<b>Device ID #</b>	<b>109471</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	320 gpm @ 160 ft TDH, size: 1-1/2x3-10, driver rpm = 3500		

### 1.5.7 Produced Water Transfer Pump

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<b>Device ID #</b>	<b>109474</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	320 gpm @ 160 ft TDH, size: 1-1/2x3-10, driver rpm = 3500		

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### 1.5.8 Reject Tank Pump

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<b>Device ID #</b>	<b>109476</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	116 gpm@60 ft TDH; 3" line; driver rpm = 1750		

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### 1.5.9 Reject Tank Pump

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<b>Device ID #</b>	<b>109477</b>	<b>Device Name</b>	<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>			
<i>Device Description</i>	116 gpm@60 ft TDH; 3" line; driver rpm = 1750		

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### 1.5.10 H2S Removal Vessel Drain

<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>			
<i>Device Description</i>	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

### 1.5.11 H2S Removal Vessel Drain Pump

<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>			
<i>Device Description</i>	200 gpm @ 180 ft TDH; 3x1-1/2-8 lines; driver rpm = 3500		

### 1.5.12 Fuel Gas Scrubber

<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>			
<i>Device Description</i>	2' DIA x 7' Shell; 200 psig @ 200F		

### 1.5.13 Three Phase Separator

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<b>Device ID #</b>	<b>109491</b>	<b>Device Name</b>	<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>			
<i>Device</i>	8' DIA x 32' Shell; 150 psig @ 550F		
<i>Description</i>			

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### 1.5.14 Produced Gas Knockout Vessel

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<b>Device ID #</b>	<b>109492</b>	<b>Device Name</b>	<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>			
<i>Device</i>	2.5' DIA x 10.0' Shell; 150 psig @ 540F		
<i>Description</i>			

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### 1.5.15 H2S Removal Vessel

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<b>Device ID #</b>	<b>109493</b>	<b>Device Name</b>	<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>			
<i>Device</i>	12' DIA x 30' Shell; 150 psig @ 550F		
<i>Description</i>			

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### 1.5.16 H2S Removal Vessel

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<b>Device ID #</b>	<b>109494</b>	<b>Device Name</b>	<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

*Location Note*

*Device*

12' DIA x 30' Shell; 150 psig @ 550F

*Description*

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### **1.5.17 Filming Amine Injection System**

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<b><i>Device ID #</i></b>	<b>109677</b>	<b><i>Device Name</i></b>	<b>Filming Amine Injection System</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	M-130
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	100 gal chemical tank and metering pump		
<i>Description</i>			

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### **1.5.18 Condensate Vessel - Low Point Drain**

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<b><i>Device ID #</i></b>	<b>109678</b>	<b><i>Device Name</i></b>	<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>			
<i>Device</i>	1' dia x 3' shell; atm press		
<i>Description</i>			

---

### **1.5.19 Progauging AWT #1**

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<b><i>Device ID #</i></b>	<b>109679</b>	<b><i>Device Name</i></b>	<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>			
<i>Device</i>	2' dia x 3' shell; 400 psig @ 400F		
<i>Description</i>			

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### 1.5.20 Progauge AWT #2

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

### 1.6 Lease Automatic Custody Transfer - Phase 1

#### 1.6.1 LACT Charge Pump

<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</i>		<i>Operator ID</i>	P-361A
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	110 gpm@50 ft TDH, size: 2x2, driver rpm = 1750, part of LACT		
<i>Description</i>			

#### 1.6.2 Sample Pump

<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</i>		<i>Operator ID</i>	P-368
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	line size: 0.5"; 12 gpm@60 psi; part of LACT Unit		
<i>Description</i>			

#### 1.6.3 LACT Charge Pump

<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</i>		<i>Operator ID</i>	P-361B
<i>Model</i>		<i>Serial Number</i>	

Location Note

Device

110 gpm@50 ft TDH, size 2x2" line, driver rpm = 1750, part of LACT

Description

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#### 1.6.4 Oil Pan Drain Pump

<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>			
<i>Device</i>	Line size = 1"; 12 gpm@60 psig; part of LACT Unit		
<i>Description</i>			

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#### 1.7 Vibratory Shear Enhanced Processing (VSEP) - Phase 1

### D DIATOMITE PROJECT EXEMPT EQUIPMENT

#### 1 Feed Water Heat Exchanger

<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</i>		<i>Operator ID</i>	H-120
<i>Model</i>		<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device</i>	Part of Steam Generator (water conditioning system) preheats feed		
<i>Description</i>	water using steam condensate.		

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## 2 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</i>	GEA Rainey	<i>Operator ID</i>	H-245
<i>Model</i>	1-1030T108	<i>Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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## 3 High Pressure Feed Water Pump

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<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of Steam Generator water conditioning system		

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## 4 Supply Water Pump

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<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**5 Supply Water Pump**

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<b>Device ID #</b>	<b>109504</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**6 Reject Water Pump**

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<b>Device ID #</b>	<b>109505</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**7 Reject Water Pump**

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<b>Device ID #</b>	<b>109506</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**8 Feed Water Transfer Pump**

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<b>Device ID #</b>	<b>109507</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**9 Feed Water Transfer Pump**

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<b>Device ID #</b>	<b>109508</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

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**10 Supply Water Tank**

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<b>Device ID #</b>	<b>109510</b>	<b>Device Name</b>	<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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system); 35' DIA x 40' HIGH		

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**11 Intermediate Tank**

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

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**12 Reject Water Holding Tank**

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<b>Device ID #</b>	<b>109512</b>	<b>Device Name</b>	<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>	<i>APCD Rule Exemption:</i>		
<i>Device Description</i>	Part of VSEP (water conditioning system); 20' DIA x 24' HIGH		

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**13 Feed Water Storage Tank**

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<b>Device ID #</b>	<b>109513</b>	<b>Device Name</b>	<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>	<i>APCD Rule Exemption:</i>		
<i>Device Description</i>	Part of VSEP (water conditioning system); 35' DIA x 40' HIGH		

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**14 Steam Separator**

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

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**15 Steam Sample Cooler**

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

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**16 Steam Sample Cooler**

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

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**17 Nutshell Filter #1**

<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</i>		<i>Operator ID</i>	
<i>Model</i>	FDB-7P	<i>Serial Number</i>	20173
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Part of VSEP (water conditioning system)		

**18 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>APCD 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>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Wemco deparator. Part of VSEP (water conditioning system);		

## 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

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	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.

## 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	25-83Q	<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

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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	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.
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## **10.7 APCD Response to Comments**

The notice for public comment on the draft of this permit was published April 6, 2009. The public comment period extended from April 6, 2009 through May 21, 2009. During that period, only comments received were from the permittee. The following are comments received from the permittee and the APCD response to each of those comments that relate to this permit.

1. **BreitBurn Comment:** BreitBurn is requesting a short meeting to go over this permit, while combining the Diatomite permit with the Newlove Lease permit a lot of clarity and accuracy was lost. If a meeting is not agreeable to the District, then BreitBurn requests the right to provide additional comment.

**APCD Response:** Comment was discussed further in subsequent phone conversations with Marianne Strange (Breitburn's agent). The APCD noted that the permit conditions are the same as in the original Breitburn permit, just numbered differently and integrated into the Newlove facility permit. APCD provided guidance to assist with Breitburn's concern that the internal system for maintaining compliance would need to be revised.

2. **BreitBurn Comment:** It would be helpful to refer the field operations as Field not "general".

**APCD Response:** All operations referred to as "general" in the draft permit revised to be referred to as "field" operations in final permit.

3. **BreitBurn Comment:** Section 1.3 Emission Sources. Please clarify what equipment is Diatomite and what belong to the field. Are the two steam generators that are referenced the 62.5 and 23 MMBtu? The 23 MMBtu steam generator should not be referenced in this permit with out citing

**APCD Response:** Section 1.3 equipment broken down into field equipment and Diatomite Project equipment. Small steam generator (23 MMBtu) reference removed.

4. **BreitBurn Comment:** Section 2.1.1 b). The number of wells listed conflict with Section 1.3.

**APCD Response:** Based on information from Breitburn the District understands that there are two well pods of up to 16 wells each installed at the Diatomite Project. The Diatomite Project therefore has a total of 32 wells, but only 30 of those wells are permitted as part of the Diatomite Project, as two of the wells were existing Newlove Lease field operations wells that were already permitted as part of the Newlove Lease. Clarification made in section 2.1.1.b.

5. **BreitBurn Comment:** Section 2.1.3 b) Vapors are sent to the steam generator or the field gas gathering line.

**APCD Response:** Section revised.

6. **BreitBurn Comment:** Section 3.2. There is no reference to the Diatomite Project on the Field.

**APCD Response:** Section revised to include Diatomite Project reference.

7. **BreitBurn Comment:** Rule 343 Diatomite is exempt.

**APCD Response:** Rule 343 exemption text added to Section 3.1.

8. **BreitBurn Comment:** Table 3.0-1. Variance Case number 21-08 was issued for a facility wide electrical upgrade.

**APCD Response:** Table 3.0-1 updated.

9. **BreitBurn Comment:** Table 3.0-2 remained is misspelled.

**APCD Response:** Spelling corrected.

10. **BreitBurn Comment:** Section 4.2.3. The steam generator has a single burner.

**APCD Response:** Section updated to reflect a single burner.

11. **BreitBurn Comment:** Section 4.4.1. The crude tank is 2100 bbl not 3100.

**APCD Response:** Crude tank capacity corrected.

12. **BreitBurn Comment:** Section 4.4.3. This section should include T-360 2100 bbl waste water tank.

**APCD Response:** Waste water tank added.

13. **BreitBurn Comment:** There has been an operational change since the permit was issued in draft; the diatomite gas is going to the field gas gathering system rather than being burned in the third burner ring. The District mentioned that new conditions were going to be written to address this change. BreitBurn would like to retain the flexibility to be able to operate as the plant was originally designed.

**APCD Response:** Comment noted. The flexibility is built in and monitoring will determine compliance with the permit conditions.

14. **BreitBurn Comment:** Condition C.9 (d) this reporting condition should be consistent with the monitoring condition C.6. ( c) iv.

**APCD Response:** TVP and API gravity monitoring and reporting condition C.2.(b).ii has been added for other tanks at the Newlove Lease. Condition C.9.(d) revised to require the information required in conditions C.6.(c).iv and C.2.(b).ii. Similar TVP and API gravity monitoring and reporting conditions were also added to BreitBurn Lease permits that include Petroleum Storage and Processing Tanks (California Coast Lease PTO 8226-R8 and Pinal Lease PTO 8502-R6).

15. **BreitBurn Comment:** New exempt equipment has been added to the VSEP facility. This equipment includes two nutshell filters and a clarifier/Wemco Depurator. The nutshell filter model number is FDB-7P and the serial numbers are nutshell filter #1 – 20173, nutshell filter #2 – 20045. The Clarifier is Model Number 5-4C serial number 802.

**APCD Response:** This equipment was added to the Diatomite Project Exempt Equipment List found in Attachment 10.5.

