



**FINAL**

**PERMIT TO OPERATE 8174-R5**  
**and**  
**PART 70 OPERATING PERMIT 8174**

**BREITBURN ENERGY COMPANY LP (BREITBURN)**  
**ORCUTT HILL STATIONARY SOURCE**  
**ORCUTT HILL COMPRESSOR PLANT**

**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
NAROC	non-alkane reactive organic compounds
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 8174*) as well as the State Operating Permit (reevaluation of *Permit to Operate 8174*).

The County is currently designated as a nonattainment area for the state ozone and PM<sub>10</sub> ambient air quality standards.

Part 70 Permitting. The initial Part 70 permit for this facility was issued on May 22, 1999 in accordance with the requirements of the 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. The Compressor Plant 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 Compressor Plant, 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:

<b>Date of Transfer</b>	<b>New Owner</b>	<b>New Operator</b>
April 9, 1996	Nuevo Energy Company	Torch Operating Company
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company

<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.

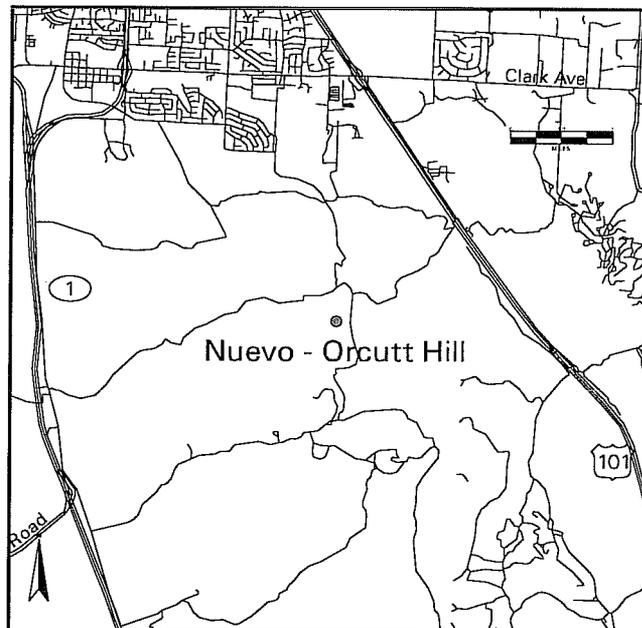
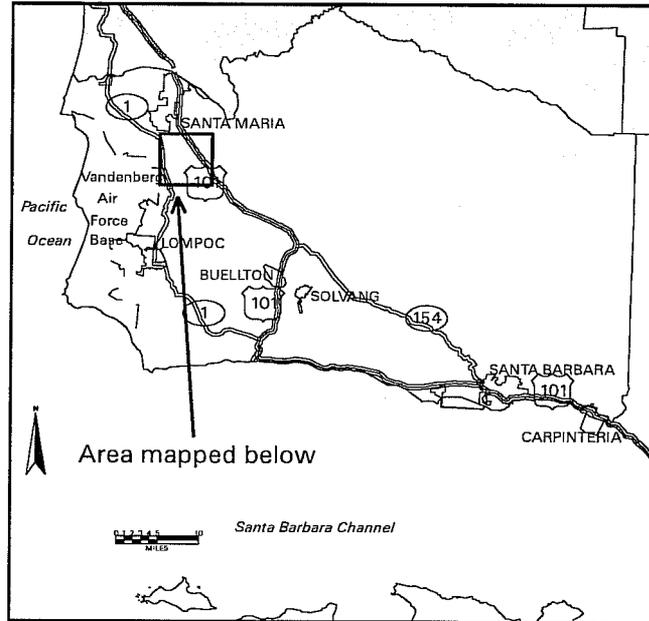
November 5, 2004	BreitBurn Energy	BreitBurn Energy
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For APCD regulatory purposes, the facility is located in the Northern Zone of Santa Barbara County<sup>2</sup>. Figure 1.1 shows the relative location of the facility within the county.

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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 Orcutt Hill Compressor Plant**

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 Orcutt Hill Compressor Plant consists of the following oil and gas production systems:

- Gas compressors;
- Condensate scrubbing equipment;
- Glycol dehydration equipment;
- Vapor recovery systems;
- External combustion equipment; and
- Wastewater storage equipment;

Gas is gathered from the leases in the *BreitBurn Orcutt Hill Stationary Source* and is piped to the Orcutt Hill Compressor Plant. At the compressor plant the gas is dehydrated and scrubbed to remove natural gas liquids. The gas is used as fuel on the stationary source or sold. The natural gas liquids are sent to the Newlove Tank Battery.

Exempt equipment (as defined in APCD Rule 202) located at the compressor plant are listed in Table 10.7.

- 1.2.2 Facility New Source Review Overview: Most of the equipment on the Orcutt Hill Compressor Plant was in place and operating before a permit to operate was required. Therefore, much of the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct. However, in the interim between the second and this third PT70 renewal/reevaluation, there were two modifications to the facilities that qualified under the New Source Review. Table 1.1 provides a summary of the New Source Review history of the Orcutt Hill Compressor Plant.

**Table 1.1**

## New Source Review Overview

<b>Permit Number</b>	<b>Issuance Date</b>	<b>Permitted Modification</b>
ATC 9297	10/13/94	Install vapor recovery on the wastewater and road oil tanks.
ATC 9297-01	11/08/95	Extend time to install vapor recovery on the wastewater and road oil tanks.
ATC 11580	07/25/05	Convert an existing first stage compressor scrubber into a new sulfur scrubber (final PTO 11580 is incorporated into PTO 8174-R4)
ATC 12032	09/26/06	Conversion of the existing inlet sulfur scrubber (Device 106204) into an inlet liquid knockout scrubber, and Conversion of one discharge fuel gas scrubber (Device 101232) into a discharge sulfur scrubber.
ATC 12767	08/08/08	Replace existing Ingersoll Rand electric compressor with two (one primary, one back up) electric Worthington Compressors.

### **1.3 Emission Sources**

The emissions from the Orcutt Hill Compressor Plant come from gas dehydration and compression equipment, external combustion sources, tanks, pits, 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:

- One (1) gas compressors;
- One (1) glycol reboiler;
- Two (2) wastewater (overflow) pits; 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 Orcutt Hill Compressor Plant 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, the glycol reboiler vent, and the tanks.

## **1.5 Offsets/Emission Reduction Credit Overview**

There have been no offsets required to date 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. Control of the glycol reboiler vent provides Emission Reduction Credits to the Point Pedernales Project.

## **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 Gas Gathering – Produced gas and vapors from vapor recovery systems from leases located in the BreitBurn Orcutt Hill Stationary Source is piped to the Orcutt Hill Compressor Plant.
- 2.1.2 Gas Processing – Scrubbers are utilized to remove natural gas liquids from the gas. The natural gas liquids are piped to the Newlove Tank Battery, where they are mixed with crude oil. A Sulfa-Check gas scrubber removes sulfur compounds from the natural gas used as fuel in the Orcutt Hill Stationary Source. A glycol system is used to dehydrate the gas. The glycol is regenerated in an externally fired reboiler. The glycol reboiler vent is connected to vapor recovery.
- 2.1.3 Vapor Recovery - The tanks and the glycol regenerator vent are connected to a vapor recovery system (VRS). The vapors collected by the VRS are routed to the first-stage compressor intake. The VRS is assumed to have a 95-percent control efficiency.
- 2.1.4 Gas Compression – The scrubbed gas is compressed and is used as fuel on the Orcutt Hill Stationary Source. The compressors are driven by electric motors or internal combustion engines included in PTO 8039.

### **2.2 Support Systems**

There are no additional support systems on the Orcutt Hill Compressor Plant.

### **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 Orcutt Hill Compressor Plant 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 Orcutt Hill Compressor Plant is equipped with two wastewater pits.

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 Orcutt Hill Compressor Plant.

### 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 202 (Specific Exemptions to Rule 201): The following equipment items are exempt from the requirements to obtain a permit. An exemption from permit, however, does not grant relief from any applicable prohibitory rule unless specifically exempted by that prohibitory rule. (also see Section 10.7 for a complete list):

Lube oil tanks;  
Heat exchanger;  
Jacket water pumps, two (2);  
Air compressors, three (3); and  
Jacket water cooler.



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 Nuevo'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 344 (Petroleum Sumps, Pits and Well Cellars): The post primary sumps and pits at the Orcutt Hill Compressor Plant 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 Orcutt Hill Compressor Plant 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 Orcutt Hill Compressor Plant 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. The Orcutt Hill Compressor Plant currently is not subject to the provisions of this Subpart. Nuevo submitted information on October 26, 2000 indicating the Orcutt Hill Compressor Plant is exempt from the requirements of MACT based on the throughput exemption per section 63.760(e)(2) of the subpart. The throughput at this facility is less than 18,400 standard cubic meters of gas per day. On February 27, 2002 the APCD issued a letter to Nuevo agreeing with this exemption.
- 3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally-enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are currently subject to CAM. All emission units at this facility have a pre-control emission potential less than 100 tons/year.
- 3.2.6 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to the Orcutt Hill Compressor Plant. Table 3.1 lists the federally-enforceable APCD promulgated rules that are "generic" and apply to the Orcutt Hill Compressor Plant. Table 3.2 lists the federally-enforceable APCD promulgated rules that are "unit-specific" that apply to the Orcutt Hill Compressor Plant. 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 Orcutt

Hill Compressor Plant 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 Orcutt Hill Compressor Plant. 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 October 10, 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 Orcutt Hill Compressor Plant 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. 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 Orcutt Hill Compressor Plant 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 Orcutt Hill Compressor Plant does not perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the vapor recovery system.

Rule 343 - Petroleum Storage Tank Degassing: This rule applies to the degassing of any above-ground tank, reservoir or other container of more than 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 2.6 psia or between 20,000 gallons and 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 3.9 psia. 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 controls on sumps and pits subject to the rule and an inspection and maintenance plan for well cellars. The wastewater pits are exempt from Rule 344 controls and there are no wells or well cellars at the Orcutt Hill Compressor Plant.

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 Orcutt Hill Compressor Plant. 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: During the last three years, the operator has not applied for any variances.

3.5.2 Violations: During the last three years, one Notice of Violation (NOV) has been issued for this facility. The NOV is listed below:

#### **Notices of Violation Issued**

<b>Type</b>	<b>Number</b>	<b>Issued</b>	<b>Description</b>
NOV	8783	06/27/07	Exceeding the number of leaks specified in Table 1, of Section F.2, for each inspection period for major gas leaks and/or liquid leaks, as determined by District or operator inspection.

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 Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications	All emission units	Applicability of relevant Rules
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.
<u>RULE 304</u> : Particulate matter – Northern Zone	Each PM Source	Emission of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustion contaminant emission
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<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.
<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 331</u> : Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs. Dev Nos 101237, 107237 through 107239.
<u>RULE 344</u> : Petroleum Wells, Sumps and Cellars	Wastewater pits	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
<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	April 17, 1997
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	May 20, 1999
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

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 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 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	October 17, 2002
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 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

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
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**

There is one gas fired glycol reboiler at the Orcutt Hill Compressor Plant. This unit is rated below the applicability threshold for Rule 342 emission standards.

The emission factors for the boiler is based on USEPA AP-42, Section 1.4 (November, 1995). The calculation methodology is the same for both units:

$$ER = [ (EF \times SCFPP \times HHV) \div 10^6 ]$$

where: ER = emission rate (lb/period)  
 EF = pollutant specific emission factor (lb/MMBtu)  
 SCFPP = gas flow rate per operating period (scf/period)  
 HHV = gas higher heating values (1,050 Btu/scf)

Any internal combustion engines on the Orcutt Hill Compressor Plant are included in PTO 8039.

### **4.3 Fugitive Hydrocarbon Sources**

For the entire Orcutt Hill Stationary Source, 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*). Because there are no wells at the compressor plant, the CARB/KVB method calculates zero fugitive hydrocarbon emissions. A component count does not exist for the compressor plant. For the purpose of this permit, it is assumed that

the emissions for the compressor plant are included in the emissions calculated by CARB/KVB for the individual leases in the stationary source. Even though some of the leases do not have a compressor, the CARB/KVB method includes compressor emissions for these leases.

The addition of fugitive components to this facility was associated with the conversion of a first stage compressor scrubber to a Sulfa Check sulfur compound scrubber under ATC 11580, the conversion of an inlet liquid knockout scrubber and discharge liquid knockout to a sulfur removal scrubber under ATC 12032, and the removal of the existing Ingersol Rand gas transmission compressor and installation of two Worthington compressors under ATC 12767. The ROC emissions from any additional components were calculated separately from the baseline fugitives calculated with the CARB/KVB Method and were entered into the Section 5 emission tables and added to the FPTE and FNEI for the Compressor Plant.

The permittee has implemented 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.

#### **4.4 Tanks/Vessels/Sumps/Separators**

- 4.4.1 Pits, Sumps and Well Cellars: The Orcutt Hill Compressor Plant is equipped with two overflow pits, one measuring 6 feet in diameter and one measuring 2 feet in diameter. Fugitive emissions from the pits 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 the pits.

#### **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. The collected vapors are piped to the compressor plant compressor intake. Overall ROC control efficiency for the system is assumed to be 95-percent.

#### **4.7 BACT/NSPS/NESHAP/MACT**

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

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

- 4.8.1 CEMS: There are no CEMS at this facility.

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

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>

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

- ⇒ 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>)

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 Orcutt Hill Compressor Plant 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. Device Number 101235 previously permitted as an adsorption oil tank is now in diesel storage service and is exempt.

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

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

## 5.7 Net Emissions Increase Calculation

The net emissions increase for the Orcutt Hill Compressor Plant since November 15, 1990 (the day the Federal Clean Air Act Amendments were adopted in 1990) is documented in Attachment 10.6. 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
<b>SSN NEI-90</b>	<b>66.59</b>	<b>10.35</b>	<b>59.25</b>	<b>8.65</b>	<b>105.26</b>	<b>17.70</b>	<b>19.28</b>	<b>3.42</b>	<b>30.37</b>	<b>5.54</b>	<b>30.37</b>	<b>5.54</b>
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
<b>SSN NEI-90</b>	<b>33.59</b>	<b>4.33</b>	<b>32.54</b>	<b>4.42</b>	<b>48.26</b>	<b>7.30</b>	<b>8.17</b>	<b>1.39</b>	<b>12.37</b>	<b>2.25</b>	<b>12.37</b>	<b>2.25</b>
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 12273 for more details.											

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**Table 5.1-1  
BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4  
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
External Combustion	Glycol Reboiler	003920	Gas	S ppm 796	--	--	0.50	MMBtu/hr	1.0	1.0	24	2,190	8,760	A
Pits and Sumps	Overflow Pit	009882	O/W	Primary	28	ft <sup>2</sup>	--	--	1.0	1.0	24	2,190	8,760	C
	Overflow Pit	009883	O/W	Primary	3	ft <sup>2</sup>	--	--	1.0	1.0	24	2,190	8,760	C
Fugitive Components	Valves, Connections, etc	101237	--	--	0	wells	--	--	1.0	1.0	24	2,190	8,760	D
	Pumps/Compressors/Wellheads	101237	--	--	0	wells	--	--	1.0	1.0	24	2,190	8,760	D
Valves	Valves	107237	--	--	26	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	107238	--	--	153	clp	--	--	1.0	1.0	24	2,190	8,760	D
	PSV	107239	--	--	1	clp	--	--	1.0	1.0	24	2,190	8,760	D
Valves	Valves	108773	--	--	12	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	108774	--	--	66	clp	--	--	1.0	1.0	24	2,190	8,760	D
	PSV	108775	--	--	1	clp	--	--	1.0	1.0	24	2,190	8,760	D
Valves	Valves	111654	--	--	240	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	111652	--	--	120	clp	--	--	1.0	1.0	24	2,190	8,760	D
	PSV	111653	--	--	4	clp	--	--	1.0	1.0	24	2,190	8,760	D
Compressor Seals	Compressor Seals	111655	--	--	2	clp	--	--	1.0	1.0	24	2,190	8,760	D

**Table 5.1-2  
BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4  
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>		
External Combustion	Glycol Reboiler	003920	0.0980	0.0054	0.0824	0.1361	0.0075	0.0075	0.0075	lb/MMBtu
Pits and Sumps	Overflow Pit	009882	--	0.0941	--	--	--	--	--	lb/ft <sup>2</sup> -day
	Overflow Pit	009883	--	0.0941	--	--	--	--	--	lb/ft <sup>2</sup> -day
Fugitive Components	Valves, Connections, etc	101237	--	--	--	--	--	--	--	--
	Pumps/Compressors/Wellheads	101237	--	--	--	--	--	--	--	--
	Valves (a)	107237	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	107238	--	0.022	--	--	--	--	--	lbs/day-clp
	PSV (a)	107239	--	2.068	--	--	--	--	--	lbs/day-clp
	Valves (a)	108773	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	108774	--	0.022	--	--	--	--	--	lbs/day-clp
	PSV (a)	108775	--	2.068	--	--	--	--	--	lbs/day-clp
	Valves (a)	111654	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	111652	--	0.022	--	--	--	--	--	lbs/day-clp
	PSV (a)	111653	--	2.068	--	--	--	--	--	lbs/day-clp
	Compressor Seals	111655	--	0.664	--	--	--	--	--	lbs/day-clp

Table 5.1-3  
**BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4**  
 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	Basis
External Combustion	Glycol Reboiler	003920	0.05	1.18	0.00	0.06	0.04	0.99	0.07	1.63	0.00	0.09	0.00	0.09	A	--
Pits and Sumps	Overflow Pit	009882	--	--	0.11	2.66	--	--	--	--	--	--	--	--	A	--
	Overflow Pit	009883	--	--	0.01	0.30	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves, Connections, etc. (a)	101237	--	--	0.00	0.00	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads (a)	101237	--	--	0.00	0.00	--	--	--	--	--	--	--	--	A	--
	Valves	107237	--	--	0.02	0.48	--	--	--	--	--	--	--	--	FE	ATC 11580
	Flanges	107238	--	--	0.03	0.66	--	--	--	--	--	--	--	--	FE	ATC 11580
	PSV	107239	--	--	0.02	0.41	--	--	--	--	--	--	--	--	FE	ATC 11580
	Valves	108773	--	--	0.01	0.22	--	--	--	--	--	--	--	--	FE	ATC 12032
	Flanges	108774	--	--	0.01	0.29	--	--	--	--	--	--	--	--	FE	ATC 12032
	PSV	108775	--	--	0.02	0.41	--	--	--	--	--	--	--	--	FE	ATC 12032
	Valves	111654	--	--	0.18	4.39	--	--	--	--	--	--	--	--	FE	ATC 12767
	Flanges	111652	--	--	0.02	0.52	--	--	--	--	--	--	--	--	FE	ATC 12767
	PSV	111653	--	--	0.07	1.65	--	--	--	--	--	--	--	--	FE	ATC 12767
	Compressor Seals	111655	--	--	0.01	0.27	--	--	--	--	--	--	--	--	FE	ATC 12767

Notes:

- A = APCD enforceable emission limit
- FE = Federally enforceable emission limit.
- (a) = Compressor Plant fugitive emissions included in individual lease calculations.

Table 5.1-4  
**BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4**  
 Quarterly and Annual Emissions

Equipment Category	Description	Dev No	NO <sub>x</sub>		CO		SO <sub>x</sub>		PM		PM <sub>10</sub>		Enforceability Basis			
			TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type	Basis		
External Combustion	Glycol Reboiler	003920	0.05	0.21	0.00	0.01	0.05	0.18	0.07	0.30	0.00	0.02	0.00	0.02	A	--
Pits and Sumps	Overflow Pit	009882	--	--	0.12	0.49	--	--	--	--	--	--	--	--	A	--
	Overflow Pit	009883	--	--	0.01	0.05	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves, Connections, etc (a)	101237	--	--	0.00	0.00	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads (a)	101237	--	--	0.00	0.00	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves	107237	--	--	0.02	0.09	--	--	--	--	--	--	--	--	FE	ATC 11580
	Flanges	107238	--	--	0.03	0.12	--	--	--	--	--	--	--	--	FE	ATC 11580
	PSV	107239	--	--	0.02	0.08	--	--	--	--	--	--	--	--	FE	ATC 11580
Fugitive Components	Valves	108773	--	--	0.01	0.04	--	--	--	--	--	--	--	--	FE	ATC 12032
	Flanges	108774	--	--	0.01	0.05	--	--	--	--	--	--	--	--	FE	ATC 12032
	PSV	108775	--	--	0.02	0.08	--	--	--	--	--	--	--	--	FE	ATC 12032
Fugitive Components	Valves (a)	111654	--	--	0.20	0.80	--	--	--	--	--	--	--	--	FE	ATC 12767
	Flanges (a)	111652	--	--	0.02	0.10	--	--	--	--	--	--	--	--	FE	ATC 12767
	PSV (a)	111653	--	--	0.08	0.30	--	--	--	--	--	--	--	--	FE	ATC 12767
Fugitive Components	Compressor Seals	111655	--	--	0.01	0.05	--	--	--	--	--	--	--	FE	ATC 12767	

Notes:

A = APCD enforceable emission limit.

FE = Federally enforceable emission limit.

(a) = Compressor Plant fugitive emissions included in individual lease calculations.

**Table 5.2  
BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4  
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>
External Combustion	0.05	0.00	0.04	0.07	0.00	0.00
Pits and Sumps	--	0.12	--	--	--	--
Fugitive Components	--	0.39	--	--	--	--
	<b>0.05</b>	<b>0.51</b>	<b>0.04</b>	<b>0.07</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>
External Combustion	1.18	0.06	0.99	1.63	0.09	0.09
Pits and Sumps	--	2.96	--	--	--	--
Fugitive Components	--	9.30	--	--	--	--
	<b>1.18</b>	<b>12.32</b>	<b>0.99</b>	<b>1.63</b>	<b>0.09</b>	<b>0.09</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>
External Combustion	0.05	0.00	0.05	0.07	0.00	0.00
Pits and Sumps	--	0.13	--	--	--	--
Fugitive Components	--	0.42	--	--	--	--
	<b>0.05</b>	<b>0.56</b>	<b>0.05</b>	<b>0.07</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>
External Combustion	0.21	0.01	0.18	0.30	0.02	0.02
Pits and Sumps	--	0.54	--	--	--	--
Fugitive Components	--	1.70	--	--	--	--
	<b>0.21</b>	<b>2.25</b>	<b>0.18</b>	<b>0.30</b>	<b>0.02</b>	<b>0.02</b>

**Table 5.3**  
**BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4**  
**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>
External Combustion	0.05	0.00	0.04	0.07	0.00	0.00
Pits and Sumps	--	0.12	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.05</b>	<b>0.14</b>	<b>0.04</b>	<b>0.07</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>
External Combustion	1.18	0.06	0.99	1.63	0.09	0.09
Pits and Sumps	--	2.96	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>1.18</b>	<b>3.03</b>	<b>0.99</b>	<b>1.63</b>	<b>0.09</b>	<b>0.09</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>
External Combustion	0.05	0.00	0.05	0.07	0.00	0.00
Pits and Sumps	--	0.13	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.05</b>	<b>0.15</b>	<b>0.05</b>	<b>0.07</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>
External Combustion	0.21	0.01	0.18	0.30	0.02	0.02
Pits and Sumps	--	0.54	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	<b>0.21</b>	<b>0.56</b>	<b>0.18</b>	<b>0.30</b>	<b>0.02</b>	<b>0.02</b>

**Table 5.4-1  
BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4  
Equipment Hazardous Air Pollutant Factors**

Equipment Category	Description	Dev No	Emission Factors								References
			Formaldehyde	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Units		
External Combustion	Glycol Reboiler	003920	4.5200E-06	0.0000E+00	2.2300E-06	3.0760E-05	1.7810E-05	0.0000E+00	lb/MMBtu	for SCC# 3-10-004-04	
Pits and Sumps	Wastewater Pit	009862	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Wastewater Pit	009863	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Fugitive Components	Valves, Connections, etc	101237	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Pumps/Compressors/Welheads	101237	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Valves	Valves	107237	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Flanges	107238	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	PSV	107239	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Valves	Valves	108773	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Flanges	108774	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	PSV	108775	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Valves	Valves	111654	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	Flanges	111652	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
	PSV	111653	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	
Compressor Seals	Compressor Seals	111655	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756	

**Table 5.4-2  
BreitBurn Orcutt Hill Compressor Plant: Permit to Operate 8174-R4  
Daily and Annual Hazardous Air Pollution Emissions**

Equipment Category	Description	Dev No	Formaldehyde		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	lb/day	ton/year
External Combustion	Glycol Reboiler	003920	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pits and Sumps	Wastewater Pit	009882	0.00	0.00	0.47	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.08
	Wastewater Pit	009883	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01
Fugitive Components	Valves, Connections, etc	101237	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Pumps/Compressors/Wellheads	101237	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Valves Flanges PSV	Valves	107237	0.00	0.00	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01
	Flanges	107238	0.00	0.00	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.02
	PSV	107239	0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01
Valves Flanges PSV	Valves	108773	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
	Flanges	108774	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01
	PSV	108775	0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01
Valves Flanges PSV	Valves	111654	0.00	0.00	0.78	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.68	0.12
	Flanges	111652	0.00	0.00	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01
	PSV	111653	0.00	0.00	0.29	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.05
Compressor Seals	Compressor Seals	111655	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01
<b>Totals</b>			<b>0.00</b>	<b>0.00</b>	<b>2.17</b>	<b>0.40</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.90</b>	<b>0.35</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.

## 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 Orcutt Hill Compressor Plant provides 7.30 tons of ROC per quarter and 0.31 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 the glycol reboiler vent. 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 Orcutt Hill Compressor Plant. 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 Orcutt Hill Compressor Plant:

**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.*

### **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 BreitBurn Orcutt Hill Stationary Source shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. [Re: 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 **Sulfur Content of Fuels (Rule 311):** The permittee shall not burn fuels with a sulfur content in excess of 796 ppm<sub>vd</sub> or 50 gr/100 scf (calculated as H<sub>2</sub>S) for gaseous fuel. Compliance with this condition shall be based on annual measurements of the fuel gas using Draeger tubes, ASTM, or other APCD-approved methods. [Reference: APCD Rule 311.B]

- B.6 **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.7 **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.8 **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.9 **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.10 **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.11 **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.12 **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.13 **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
101237	Valves, flanges and other components in hydrocarbon service

- (a) Emission Limits: There are no federally-enforceable limits for fugitive emissions.
- (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 **Sumps and Pits.** The following equipment are included in this emissions category:

<b>Dev No</b>	<b>Equipment Name; Capacity, Size</b>
009882	Wastewater Pit, 6 foot diameter
009883	Wastewater Pit, 2 foot diameter

- (a) Emission Limits: Mass emission for equipment 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 Rule 344. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.
  - (i) (c) Monitoring: The above identified devices shall be subject to the following monitoring requirements: Applicable monitoring requirements shall comply with APCD Rule 344.
  - (i) (d) Recordkeeping: The above identified devices shall be subject to the following recordkeeping requirements: Applicable recordkeeping requirements shall comply with APCD Rule 344.
- (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 Rule 344 and 1303.D.1.f]

C.3 **Glycol Reboiler Vent Control.** The following equipment is included in this emissions unit category:

<b>Dev No</b>	<b>Description</b>
003920	Glycol reboiler rated at 0.500 MMBtu/hour

- (a) Emission Limits: The glycol reboiler vent is assumed to have 100% control. Therefore, there are no emission limits.
- (a) Operation Limits:
  - (i) *Control of the Glycol Reboiler Vent*: The glycol reboiler vent shall be connected to the vapor recovery/gas collection (VRGC) system. The VRGC system shall be in operation when the glycol reboiler 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.

- (ii) *Emission Reduction Credits: Real, Surplus, Quantifiable and Enforceable:* The emission reductions created by the control of the glycol reboiler vent are for the use as offsets by the BreitBurn Energy Company to meet the requirements under PTO 6708 for the Point Pedernales Project. Emission reduction measures 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 glycol reboiler vent 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 gas 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.

- (c) Monitoring: None. (Note: The VRGC is subject to APCD Rule 331.)
- (d) Recordkeeping: None
- (e) Reporting: None

[Reference: 40 CFR 70.6]

C.4 **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	3000 lbs/day

- (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.5 **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.6 **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.7 **Fuel Gas Sulfur Limit and Monitoring.** The permitted equipment is subject to the following operational restrictions:

(a.) *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 at the facility shall not exceed 50 grains per 100 cubic feet (796 ppm<sub>v</sub>). In order to ensure that this limit is not exceeded, the operator shall:

(i) Measure the H<sub>2</sub>S content of the fuel gas on a weekly basis using Draeger tubes or an APCD-approved equivalent.

(ii) If the Draeger tube measurement indicates a H<sub>2</sub>S content greater than 637 ppm<sub>v</sub>, the permittee shall measure the total sulfur content of the gaseous fuel within one week of the Draeger tube measurement in accordance with ASTM-D1072 or a APCD approved equivalent method.

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

C.8 **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) *Emissions*: Annual NOx and ROC emissions from both permitted and exempt equipment.
- (d) *Fuel Gas Sulfur Content*: Written documentation of the fuel sulfur content per Condition C.8.

#### **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 **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..

- D.4 **External Combustion Equipment:** The hourly and annual heat input to the following combustion equipment shall not exceed those values listed below. These limits are based on the design rating of the equipment. Compliance with this condition shall be based on fuel usage and/or fuel testing. Unless otherwise designated by the APCO, the fuel heat content (Field gas – 1,050 Btu/scf) shall be used for determining compliance:

<b>Equipment</b>	<b>Fuel</b>	<b>Hourly Heat Input (MMBtu/hr)</b>	<b>Annual Heat Input (MMBtu/yr)</b>
Glycol Reboiler	Field Gas	0.500	4,380

- D.5 **Severability:** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
- D.6 **Compliance:** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.
- D.7 **Abrasive Blasting Equipment:** All abrasive blasting activities performed on the Orcutt Hill Compressor Plant shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.
- D.8 **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.9 **Annual Compliance Verification Reports:** The permittee shall submit a report to the APCD, by March 1<sup>st</sup> 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) On an annual basis, the heating value of the gaseous fuel (Btu/scf) shall be measured and recorded;
  - (b) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence.
  - (c) The ROC and NO<sub>x</sub> emissions from all permit exempt activities (tons per year by device/activity).
  - (d) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

D.10 **Mass Emission Limitations:** Mass emissions for each equipment item (i.e., emissions unit) associated with the Orcutt Hill Compressor Plant 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 Orcutt Hill Compressor Plant
- (b) Permit Reevaluation Due Date: June 2, 2009
- (c) Part 70 Operating Permit Expiration Date: June 2, 2012



## **10.0 Attachments**



## 10.1 EMISSION CALCULATION DOCUMENTATION ORCUTT HILL COMPRESSOR PLANT:

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 - External Combustion Devices (Glycol Reboilers)

- The maximum operating schedule is in units of hours
- The gaseous fuel default characteristics are:
  - ⇒ HHV = 1,050 Btu/scf
  - ⇒ Fuel S = 796 ppmvd as H<sub>2</sub>S for all equipment
  - ⇒ Emission factors, shown below, are based on USEPA AP-42, Tables 1.4-2 & 1.4-1, (5<sup>th</sup> Edition, 2/96).

NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>	Units
0.098	0.0054	0.0824	0.1361	0.0075	0.0075	lb/MMBtu

SO<sub>2</sub> emission factor is based on mass balance equation, based on fuel S. Thus:

$$\Rightarrow \text{SO}_2 (\text{lb/MMBtu}) = 0.169 \text{ lb SO}_2/\text{scf of H}_2\text{S} * 1/\text{HHV} * (\text{ppmvd S in fuel})$$

### Reference B – Petroleum Storage Tanks

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

### Reference C – Pits, Sumps

- 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 D - Pipeline Components Emitting Fugitive ROCs

- Emission factors are based on the *APCD P&P 6100.060* guidelines for the CARB/KVB method of calculating fugitive emissions .
- 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.
- Emission factors are based on the *APCD P&P 6100.061* guidelines for the component leak path method of calculating fugitive emissions.

## 10.2 Emission Calculation Spreadsheets

Attachment: A

Date: 02/19/09

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

DATA

Permit No. ....	8174
Owner/Operator .....	BreitBurn Energy
Facility/Lease .....	Orcutt Compressor Plant
Boiler Type .....	Firetube
Boiler Mfg. ....	Glycol Reboiler
Boiler Model No. ....	no data
Boiler Serial/ID No. ....	no data
Boiler Horsepower .....	no data Bhp
Burner Type .....	Gas
Burner Mfg. ....	no data
Burner Model No. ....	no data
Max. Firing Rate of Burner .....	0.500 MMBtu/hr
Max. Annual Heat Input .....	4,380.000 MMBtu/yr
Daily Operating schedule .....	24 hrs/day
Yearly Load factor (%) .....	100 %
Fuel Type .....	Field Gas
High Heating Value .....	1,050 Btu/scf
Sulfur Content of Fuel .....	796.00 ppmvd as H <sub>2</sub> S
Nitrogen Content of Fuel .....	- wt. % N
Boiler Classification .....	Commercial
Firing Type .....	Other Type
PM Emission Factor .....	0.0075 lb/MMBtu
PM <sub>10</sub> Emission Factor .....	0.0075 lb/MMBtu
NO <sub>x</sub> Emission Factor .....	0.0980 lb/MMBtu
SO <sub>x</sub> Emission Factor .....	0.1361 lb/MMBtu
CO Emission Factor .....	0.0824 lb/MMBtu
ROC Emission Factor .....	0.0054 lb/MMBtu

RESULTS

	<u>lb/hr</u>	<u>lb/day</u>	<u>TPY</u>
Nitrogen Oxides (as NO <sub>2</sub> ) .....	0.05	1.18	0.21
Sulfur Oxides (as SO <sub>2</sub> ) .....	0.07	1.63	0.30
PM <sub>10</sub> .....	0.00	0.09	0.02
Total Suspended Particulate (PM) .....	0.00	0.09	0.02
Carbon Monoxide .....	0.04	0.99	0.18
Reactive Organic Compounds (ROC) .....	0.00	0.06	0.01
Hourly Heat Release .....	0.500 MMBtu/hr		
Daily Heat Release.....	12.000 MMBtu/day		
Annual Heat Release .....	4,380.000 MMBtu/yr		
Rule 342 Applicability .....	4.4 Billion Btu/yr		

## FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

Page 1 of 2

Attachment:	C
Company:	BreitBurn Energy
PTO #:	8174
Facility:	Orcutt Compressor Plant
Date:	19-Feb-09

Version: fhc-kvb2.xls  
Date: 28-Apr-97

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

Data	Value	Units
Number of Active Wells at Facility	0	wells
Facility Gas Production		scf/day
Facility Dry Oil Production		bbls/day
Facility Gas to Oil Ratio (default to 501)	501	scf/bbl
API Gravity	25	degrees API
Facility Model Number		dimensionless
Steam Drive Wells with Control Vents	0	lb/day-well
Steam Drive Wells with Uncontrol Vents	0	lb/day-well
Cyclic Steam Drive Wells with Control Vents	0	lb/day-well
Cyclic Steam Drive Wells with Uncontrol Vents	0	lb/day-well
Composite Valve and Fitting Emission Factor		lb/day-well

### ROC Emission Calculation Results Table

	Reactive Organic Compounds		
	lbs/hr	lbs/day	tons/year
Valves and Fittings <sup>(a)</sup>	0.00	0.00	0.00
Sumps, Wastewater Tanks and Well Cellars <sup>(b)</sup>	0.12	2.96	0.54
Oil/Water Separators <sup>(b)</sup>	0.00	0.00	0.00
Pumps/Compressors/Well Heads <sup>(b)</sup>	0.00	0.00	0.00
Enhanced Oil Recovery Fields	0.00	0.00	0.00
<b>Total Facility FHC Emissions (ROC)</b>	<b>0.12</b>	<b>2.96</b>	<b>0.54</b>

a: Emissions amount reflect an 80% reduction due to Rule 331 implementation.

b: Emissions reflect control efficiencies where applicable.

\*: Due to rounding, the totals may not appear correct

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

Model #1: Number of wells on lease is less than 10 and the GOR is less than 500

Model #2: Number of wells on lease is between 10 and 50 and the GOR is less than 500.

Model #3: Number of wells on lease is greater than 50 and the GOR is less than 500.

Model #4: Number of wells on lease is less than 10 and the GOR is greater than 500.

Model #5: Number of wells on lease is between 10 and 50 and the GOR is greater than 500

Model #6: Number of wells on lease is greater than 50 and the GOR is greater than 500.

### Pumps, Compressors, and Well Heads

Number of Wells	0	wells
Wellhead emissions	0	ROC (lb/well-day)
FHC from Pumps	0	ROC (lb/well-day)
FHC from Compressors	0	ROC (lb/well-day)
<b>Total:</b>	<b>0.0000</b>	<b>ROC (lb/well-day)</b>

**FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD**

**Sumps, Uncovered Wastewater Tanks, and Well Cellars**

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

Unit Type/Emissions Factor

Primary	0.0941	(lb ROC/ft <sup>2</sup> -day)
Secondary	0.0126	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	(lb ROC/ft <sup>2</sup> -day)

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

Description/Name	Number	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
Overflow Pit		28.27	2.66		
Overflow Pit		3.14	0.30		
			2.96	0.00	0.00

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

**Covered Wastewater Tanks**

Efficiency Factor: 85%

Unit Type/Emissions Factor

Primary	0.0941	(lb ROC/ft <sup>2</sup> -day)
Secondary	0.0126	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	(lb ROC/ft <sup>2</sup> -day)

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

Description/Name	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
			0.00	
			0.00	
		0.00	0.00	0.00

**Covered Wastewater Tanks Equipped with Vapor Recovery**

Efficiency Factor: 95%

Unit Type/Emissions Factor

Primary	0.0941	(lb ROC/ft <sup>2</sup> -day)
Secondary	0.0126	(lb ROC/ft <sup>2</sup> -day)
Tertiary	0.0058	(lb ROC/ft <sup>2</sup> -day)

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

Description/Name	Area (ft <sup>2</sup> )	Primary	Secondary	Tertiary
			0.00	0.00
			0.00	
		0.00	0.00	0.00

**Oil/Water Separators**

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

Emissions Factor: 560 (lb ROC/MM Gal)

**Type (emissions in lbs/day)**

Description/Name	TP-MM Gal	Type (emissions in lbs/day)			Total lb/day
		Equipped with Cover	Equipped with VRS	Open Top	
		0.00	0.00	0.00	
		0.00	0.00	0.00	
		0.00	0.00	0.00	
		0.00	0.00	0.00	0.00

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION									
Attachment: E-1									
Company: BreitBurn									
Facility: Compressor Plant Sulfa Check Scrubber									
Processed by: AXR									
Date: November 10, 2006									
Path & File Name:									
Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant									
Refinery									
Offshore Platform									
Component	Count <sup>(1)</sup>	ROC <sup>(2)</sup> Emission Factor (lbs/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lbs/day)	ROC Control Eff	Controlled ROC Emission (lbs/hr)	Controlled ROC Emission (lbs/day)	Controlled ROC Emission (Tons/0m)	Controlled ROC Emission (Tons/year)
<b>Gas Condensate Service</b>									
Valves - Acc/Inacc	26	0.295	0.31	2.38	0.80	0.02	0.48	0.02	0.09
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	153	0.070	0.31	3.32	0.80	0.03	0.66	0.03	0.12
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>180</b>			<b>7.77</b>		<b>0.06</b>	<b>1.55</b>	<b>0.07</b>	<b>0.28</b>
<b>Oil Service</b>									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>0</b>			<b>0.000</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>180</b>			<b>7.77</b>		<b>0.06</b>	<b>1.55</b>	<b>0.07</b>	<b>0.28</b>
<b>Notes:</b>									
1. Source: Component leak path counts are from SCDP inspection analysis by R. Thornburg, APCD Inspector									
2. APCD P&P #6100.060, 1998									
3. APCD P&P #6100.061, 1998									
4. A 80% efficiency is assigned to fugitive components Rule 331 implementation.									

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION									
Attachment D 2 - "C" Term									
Company: BreiBum									
Facility: Compressor Plant Scrubber Removal									
Processed by: AXR									
Date: November 10, 2005									
Path & File Name:									
Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		ROC <sup>(2)</sup>		Uncontrolled		Controlled	Controlled	Controlled	Controlled
Refinery		Emission	ROC:THC	ROC	ROC	ROC	ROC	ROC	ROC
Offshore Platform		Factor	Ratio	Emission	Control	Emission	Emission	Emission	Emission
Component	Count <sup>(1)</sup>	(lbs/day-clp)		(lbs/day)	Eff	(lbs/hr)	(lbs/day)	(Tons/yr)	(Tons/year)
<b>Gas Condensate Service</b>									
Valves - Acc/Inacc	28	0.295	0.31	1.83	0.80	0.02	0.37	0.02	0.07
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc (5)	56	0.070	0.31	1.22	0.80	0.01	0.24	0.01	0.04
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>77</b>			<b>5.11</b>		<b>0.04</b>	<b>1.02</b>	<b>0.05</b>	<b>0.19</b>
<b>Oil Service</b>									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>0</b>			<b>0.000</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>77</b>			<b>5.11</b>		<b>0.04</b>	<b>1.02</b>	<b>0.05</b>	<b>0.19</b>

Notes:

- Source: Component leak path counts are from SCDP inspection analysis by R. Thornburg, APCD Inspector
- APCD P&P #6100.060.1998.
- APCD P&P #6100.061.1998
- A 80% efficiency is assigned to fugitive components Rule 331 implementation.
- Based on a ratio of 76 components:153 clps as 28 components:x, where x = 56clps. Ref. SCDP analysis by R. Thornburg, APCD Inspector 11-8-05

PTO 12032 Fugitive Emissions Calculation  
"I" Term Calculation

ADMINISTRATIVE INFORMATION										
Attachment: D3										
Company: BreitBurn Energy										
Facility: Orcutt Hill Compressor Plant										
Processed by: AXR										
Date: 02/19/2009										
Path & File Name: \\sbcapcd.org\Shares\Groups\ENGR\WP\PT070SRCE\PERMITS\VO&G-PROD\Breitburn Orcutt\Reevals\Third Reevals\Compressor Plant\I Term FHC Calcs - CLP Method (ver 3.0).xls\CMPPFUG										
Facility Type: (Choose one facility type by marking the box to the right of the facility type with an "x")										
Production Field	<input checked="" type="checkbox"/>	Gas Processing Plant	<input type="checkbox"/>	Refinery	<input type="checkbox"/>	Offshore Platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Component	Count	THC <sup>1</sup> Emission Factor (lb/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control <sup>2,3</sup> Efficiency	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)	
<b>Gas Condensate Service</b>										
Valves - Accessible/Inaccessible	12	0.295	0.31	1.10	0.80	0.01	0.22	0.01	0.04	
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00	
Valves - Bellows		0.295	0.31	0.00	0.80	0.00	0.00	0.00	0.00	
Valves - Bellows / Background ppmv		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00	
Valves - Category A		0.295	0.31	0.00	0.84	0.00	0.00	0.00	0.00	
Valves - Category B		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00	
Valves - Category C		0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00	
Valves - Category D		0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00	
Valves - Category E		0.295	0.31	0.00	0.88	0.00	0.00	0.00	0.00	
Valves - Category F		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00	
Valves - Category G		0.295	0.31	0.00	0.92	0.00	0.00	0.00	0.00	
Flanges/Connections - Accessible/Inaccessible	66	0.070	0.31	1.43	0.80	0.01	0.29	0.01	0.05	
Flanges/Connections - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00	
Flanges/Connections - Category A		0.070	0.31	0.00	0.84	0.00	0.00	0.00	0.00	
Flanges/Connections - Category B		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00	
Flanges/Connections - Category C		0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00	
Flanges/Connections - Category D		0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00	
Flanges/Connections - Category E		0.070	0.31	0.00	0.88	0.00	0.00	0.00	0.00	
Flanges/Connections - Category F		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00	
Flanges/Connections - Category G		0.070	0.31	0.00	0.92	0.00	0.00	0.00	0.00	
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00	
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00	
PSV - To Atm/Flare	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08	
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00	
Pump Seals - Single		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00	
Pump Seals - Dual/Tandem		1.123	0.31	0.00	1.00	0.00	0.00	0.00	0.00	
<b>Sub Total</b>	<b>79</b>			<b>4.60</b>		<b>0.038</b>	<b>0.919</b>	<b>0.042</b>	<b>0.168</b>	
<b>Total</b>	<b>79</b>			<b>4.60</b>		<b>0.038</b>	<b>0.919</b>	<b>0.04</b>	<b>0.17</b>	
Notes:										
1 APCD P&P # 6100 061.1998										
2 A 80% efficiency is assigned to fugitive components Rule 331 implementation.										
3 Emission Control efficiencies for the "category x" components are identified in "FHC Control Factors (ver 2.0)"										

PTO 12032 Fugitive Emissions Calculation  
"D" Term Calculation

ADMINISTRATIVE INFORMATION									
Attachment: D.4									
Company: BreitBurn Energy									
Facility: Orcutt Hill Compressor Plant									
Processed by: AXR									
Date: 02/19/2009									
Path & File Name: \\sbcapcd.org\Shares\Groups\EHGR\WP\PT\0SRCE\PERMITS\O&G-PROD\Breitburn Orcutt\Reevals\Third Reevals\Compressor Plant\{D Term FHC Calc - CLP Method (ver 3.0).xls\CMPPUG									
Facility Type: (Choose one facility type by marking the box to the right of the facility type with an "x")									
Production Field	x	Gas Processing Plant		Refinery		Offshore Platform			
Component:	Count	THC <sup>1</sup> Emission Factor (lb/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control <sup>2,3</sup> Efficiency	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qt)	Controlled ROC Emission (Tons/Yr)
<b>Gas Condensate Service</b>									
Valves - Accessible/Inaccessible	20	0.295	0.31	1.83	0.80	0.02	0.37	0.02	0.07
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A		0.295	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C		0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D		0.295	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E		0.295	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Category G		0.295	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible	28	0.070	0.31	0.61	0.80	0.01	0.12	0.01	0.02
Flanges/Connections - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A		0.070	0.31	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C		0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D		0.070	0.31	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E		0.070	0.31	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges/Connections - Category G		0.070	0.31	0.00	0.92	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - To Atm/Flare	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Pump Seals - Single		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - Dual/Tandem		1.123	0.31	0.00	1.00	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>49</b>			<b>4.50</b>		<b>0.038</b>	<b>0.901</b>	<b>0.041</b>	<b>0.164</b>
<b>Total</b>	<b>49</b>			<b>4.50</b>		<b>0.038</b>	<b>0.901</b>	<b>0.041</b>	<b>0.164</b>
<b>Notes:</b>									
1 APCD P&P # 6100.061.1998									
2 A 00% efficiency is assigned to fugitive components Rule 331 implementation.									
3 Emission Control efficiencies for the "category x" components are identified in "FHC Control Factors (ver 2.0)"									

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION									
Attachment: D.5									
Company: BreitBurn									
Facility: Orcutt Hill Compressor Plant									
Processed by: PES									
Date: 02/19/2009									
Path & File Name:									
Facility Type: (Choose one)									
Production Field									
Gas Processing Plant <input checked="" type="checkbox"/>									
Refinery <input type="checkbox"/>									
Offshore Platform <input type="checkbox"/>									
Component	Count <sup>1)</sup>	ROC <sup>2)</sup> Emission Factor (lbs/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lbs/day)	ROC Control Eff	Controlled ROC Emission (lbs/hr)	Controlled ROC Emission (lbs/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/year)
<b>Gas Condensate Service</b>									
Valves - Acc/inacc	240	1.058	0.38	96.49	0.80	0.80	19.30	0.88	3.52
Valves - Bellows		1.058	0.38	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		1.058	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		1.058	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		1.058	0.38	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		1.058	0.38	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/inacc	120	0.058	0.43	2.99	0.80	0.02	0.60	0.03	0.11
Flanges - Unsafe		0.058	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.058	0.43	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.058	0.43	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm	2	10.794	0.20	4.32	0.80	0.04	0.86	0.04	0.16
Compressor Seals - To VRS		10.794	0.20	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		10.794	0.20	0.00	0.85	0.00	0.00	0.00	0.00
Compressor seals - E-100		10.794	0.20	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	2	9.947	0.07	1.39	0.80	0.01	0.28	0.01	0.05
PSV - To VRS		9.947	0.07	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		9.947	0.07	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		9.947	0.07	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		3.3	0.79	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		3.3	0.79	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		3.300	0.79	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>364</b>			<b>105.19</b>		<b>0.88</b>	<b>21.04</b>	<b>0.96</b>	<b>3.84</b>
<b>Oil Service</b>									
Valves - Acc/inacc		0.4306	0.33	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.4306	0.33	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.4306	0.33	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.4306	0.33	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/inacc		0.0694	0.33	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0694	0.33	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0694	0.33	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0694	0.33	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		1.308	0.33	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.308	0.33	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.308	0.33	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		1.7400	0.33	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		1.7400	0.33	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		1.7400	0.33	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		1.7400	0.33	0.00	0.90	0.00	0.00	0.00	0.00
<b>Sub Total</b>	<b>0</b>			<b>0.000</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>364</b>			<b>105.19</b>		<b>0.88</b>	<b>21.04</b>	<b>0.96</b>	<b>3.84</b>
Notes:									
1. Source									
2. APCD P&P # 6100 060 1998									
3. APCD P&P # 6100 061 1998									
4. A 80% efficiency is assigned to fugitive components Rule 331 implementation.									

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION									
Attachment: D 6 - Removed									
Company: BreitBurn									
Facility: Circuit Compressor Plant									
Processed by: PES									
Date: 02-19-2009									
Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		ROC <sup>(2)</sup>		Uncontrolled		Controlled	Controlled	Controlled	Controlled
Refinery		Emission	ROC/THC	ROC	ROC	ROC	ROC	ROC	ROC
Offshore Platform		Factor	Ratio	Emission	Control	Emission	Emission	Emission	Emission
Component	Count <sup>(1)</sup>	(lbs/day-clp)		(lbs/day)	Eff	(lbs/hr)	(lbs/day)	(Tons/Qt)	(Tons/year)
<b>Gas Condensate Service</b>									
Valves - Acc/Inacc	24	0.295	0.31	2.19	0.80	0.02	0.44	0.02	0.08
Valves - Bellows		0.295	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Unsafe		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - Low Emitting		0.295	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.295	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.295	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc	142	0.070	0.31	3.08	0.80	0.03	0.62	0.03	0.11
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm	2	2.143	0.31	1.33	0.80	0.01	0.27	0.01	0.05
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		6.670	0.31	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	168			6.60		0.06	1.32	0.06	0.24
<b>Oil Service</b>									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	0			0.000		0.00	0.00	0.00	0.00
<b>Total</b>	<b>168</b>			<b>6.60</b>		<b>0.06</b>	<b>1.32</b>	<b>0.06</b>	<b>0.24</b>
Notes:									
1. Source:									
2. APCD P&P # 6100 060 1998									
3. APCD P&P # 6100 061 1998									
4. A 90% efficiency is assigned to fugitive components Rule 331 implementation.									

## 10.3 Fee Calculations

### FEE STATEMENT

PT-70/Reeval No. 08174 - R5

FID: 04104 Orcutt Hill Compressor Plant / 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
101221	Gas Compressor	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
106204	Inlet Sulfur Removal Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
108768	Inlet Liquid Knockout Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.333	19.53	0.00	0.00	19.53
111524	K-5 First Stage Suction Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
111525	K-5 Second Stage Suction Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
111518	Gas Compressor K-5	A2	125.000	30.41	Per total rated hp	No	1	0.277	1,052.95	0.00	0.00	1,052.95
111526	K-5 Discharge Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
101232	Outlet Liquid Knockout Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
108110	Outlet Sulfur Removal Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.333	19.53	0.00	0.00	19.53
111529	K-6 First Stage Suction Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
111530	K-6 Second Stage Suction Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
111519	Gas Compressor K-6	A2	125.000	30.41	Per total rated hp	No	1	0.277	1,052.95	0.00	0.00	1,052.95
111531	K-6 Discharge Scrubber	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
101224	First Stage Discharge Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101225	Second Stage Discharge Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101226	Third Stage Discharge Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101227	Condensate de-watering vessel	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
108771	Fugitive Hydrocarbons	A1.a	1.000	58.66	Per equipment	No	1	0.333	19.53	0.00	0.00	19.53
111654	Valves - Gas Service	A1.a	1.000	58.66	Per equipment	No	1	0.277	16.25	0.00	0.00	16.25
101228	Condensate pump	A2	2.000	30.41	Per total rated hp	No	1	1.000	60.82	0.00	0.00	60.82
003920	Glycol reboiler	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04

101229	Glycol Discharge Condensate Scrubber	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101230	Glycol Contactor	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101233	Wash Vessel	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
009882	Overflow Pit	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
009883	Overflow Pit	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
101234	Pit Transfer Pump	A2	3.000	30.41	Per total rated hp	No	1	1.000	91.23	0.00	0.00	91.23
101237	Fugitive Hydrocarbon Components - CARB/KVB	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
107237	Fugitive Components - Component Leak Path Method - Valves	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
107238	Fugitive Components - Component Leak Path Method - Flanges	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
107239	Fugitive Components - Component Leak Path Method - PSV	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
	<b>Device Fee Sub-Totals =</b>								<b>\$3,588.88</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$3,588.88</b>
	<b>Device Fee Total =</b>											

**Permit Fee**

Fee Based on Devices

3,588.88

**Fee Statement Grand Total = \$3,588**

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.





## 10.5 Equipment List

PT-70/Reeval 08174 R5 / FID: 04104 Orcutt Hill Compressor Plant / SSID: 02667

### A PERMITTED EQUIPMENT

#### 1 Inlet Sulfur Removal Scrubber

<i>Device ID #</i>	<b>106204</b>	<i>Device Name</i>	<b>Inlet Sulfur Removal Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	C.F. Braun & Company	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Sulfur scrubber using sulfa check or equivalent, 10 feet tall by 4 feet in diameter.		

#### 2 Gas Compressor

<i>Device ID #</i>	<b>101221</b>	<i>Device Name</i>	<b>Gas Compressor</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Clark Bros. Co.	<i>Operator ID</i>	
<i>Model</i>	Type V TH	<i>Serial Number</i>	20795
<i>Location Note</i>			
<i>Device Description</i>	Driven by Clark RA-4 400 HP IC engine (See PTO 8039)		

#### 3 Inlet Liquid Knockout Scrubber

<i>Device ID #</i>	<b>108768</b>	<i>Device Name</i>	<b>Inlet Liquid Knockout Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	C.D. Lyon Construction	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Four feet in diameter by 15 feet high. Gas from the scrubber goes to the compressor; liquids go to the condensate tank. Scrubber was altered with 5" plug 05-26-05, non-code.		

#### 4 K-5 Gas Compression System

##### 4.1 K-5 First Stage Suction Scrubber

<i>Device ID #</i>	<b>111524</b>	<i>Device Name</i>	<b>K-5 First Stage Suction Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniels Industries	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	TBD
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

##### 4.2 K-5 Second Stage Suction Scrubber

<i>Device ID #</i>	<b>111525</b>	<i>Device Name</i>	<b>K-5 Second Stage Suction Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniels Industries	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	TBD
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

##### 4.3 Gas Compressor K-5

<i>Device ID #</i>	<b>111518</b>	<i>Device Name</i>	<b>Gas Compressor K-5</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	125.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Worthington	<i>Operator ID</i>	K-5
<i>Model</i>	Cub OF5HU-2	<i>Serial Number</i>	TBD
<i>Location Note</i>			
<i>Device</i>	Horizontal opposed reciprocating compressor used to ship produced gas		
<i>Description</i>	from the Orcutt Hill Oilfield for sales or to be used as fuel.		

#### 4.4 K-5 Discharge Scrubber

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<b><i>Device ID #</i></b>	<b>111526</b>	<b><i>Device Name</i></b>	<b>K-5 Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniels Industries	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	TBD
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

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#### 5 Outlet Liquid Knockout Scrubber

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<b><i>Device ID #</i></b>	<b>101232</b>	<b><i>Device Name</i></b>	<b>Outlet Liquid Knockout Scrubber</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>	Vertical, 3' dia. by 10' high		
<i>Description</i>			

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#### 6 Outlet Sulfur Removal Scrubber

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<b><i>Device ID #</i></b>	<b>108110</b>	<b><i>Device Name</i></b>	<b>Outlet Sulfur Removal Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	The Boardman Company	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	B-2440
<i>Location Note</i>			
<i>Device</i>	Located downstream of the compressors, the vessel is 3.5 feet in diameter by 20 feet high and contains Sulfa-Check or equivalent as a scrubbing medium.		
<i>Description</i>			

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## 7 K-6 Gas Compression System

### 7.1 K-6 First Stage Suction Scrubber

<i>Device ID #</i>	<b>111529</b>	<i>Device Name</i>	<b>K-6 First Stage Suction Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniel Industries	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

### 7.2 K-6 Second Stage Suction Scrubber

<i>Device ID #</i>	<b>111530</b>	<i>Device Name</i>	<b>K-6 Second Stage Suction Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniel Industries	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>			
<i>Description</i>			

### 7.3 Gas Compressor K-6

<i>Device ID #</i>	<b>111519</b>	<i>Device Name</i>	<b>Gas Compressor K-6</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	125.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Worthington	<i>Operator ID</i>	K-6
<i>Model</i>	Cub OF5HU-2	<i>Serial Number</i>	TBD
<i>Location Note</i>			
<i>Device</i>	Horizontal opposed reciprocating compressor used to ship produced gas		
<i>Description</i>	from the Orcutt Hill Oilfield for sales or to be used as fuel.		

#### 7.4 K-6 Discharge Scrubber

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<b>Device ID #</b>	<b>111531</b>	<b>Device Name</b>	<b>K-6 Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Daniels Industries	<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 First Stage Discharge Scrubber

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<b>Device ID #</b>	<b>101224</b>	<b>Device Name</b>	<b>First Stage Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Southwest Welding & Mfg.	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	9142
<i>Location Note</i>	west unit		
<i>Device</i>	Vertical, 5' dia. by 12' high.		
<i>Description</i>			

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#### 9 Second Stage Discharge Scrubber

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<b>Device ID #</b>	<b>101225</b>	<b>Device Name</b>	<b>Second Stage Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Southwest Welding & Mfg.	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	9145
<i>Location Note</i>	center unit		
<i>Device</i>	Vertical, 3' dia. by 12' high.		
<i>Description</i>			

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## 10 Third Stage Discharge Scrubber

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<i>Device ID #</i>	<b>101226</b>	<i>Device Name</i>	<b>Third Stage Discharge Scrubber</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Southwest Welding & Mfg.	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	8855
<i>Location Note</i>	east unit		
<i>Device Description</i>	Vertical, 3' dia. by 10' 8" high.		

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## 11 Fugitive Hydrocarbons

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<i>Device ID #</i>	<b>108771</b>	<i>Device Name</i>	<b>Fugitive Hydrocarbons</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>			

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### 11.1 Component Leak Path Method - Valves

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<i>Device ID #</i>	<b>108773</b>	<i>Device Name</i>	<b>Component Leak Path Method - Valves</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>	12 leak paths.		

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## 11.2 Component Leak Path Method - Connections

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<i>Device ID #</i>	<b>108774</b>	<i>Device Name</i>	<b>Component Leak Path Method - Connections</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>	66 leak paths.		
<i>Description</i>			

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## 11.3 Component Leak Path Method - PRDs

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<i>Device ID #</i>	<b>108775</b>	<i>Device Name</i>	<b>Component Leak Path Method - PRDs</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>	One leak path.		
<i>Description</i>			

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## 12 Fugitive Hydrocarbon Components

### 12.1 Flanges/Connections - Gas Service

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<i>Device ID #</i>	<b>111652</b>	<i>Device Name</i>	<b>Flanges/Connections - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	120 clps		
<i>Description</i>			

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### 12.2 Pressure Relief Valves - Gas Service

<i>Device ID #</i>	111653	<i>Device Name</i>	Pressure Relief Valves - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	4 clps		
<i>Description</i>			

### 12.3 Valves - Gas Service

<i>Device ID #</i>	111654	<i>Device Name</i>	Valves - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	240 clps		
<i>Description</i>			

### 12.4 Compressor Seals - Gas Service

<i>Device ID #</i>	111655	<i>Device Name</i>	Compressor Seals - Gas Service
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	2 clps		
<i>Description</i>			

### 13 Condensate de-watering vessel

<i>Device ID #</i>	101227	<i>Device Name</i>	Condensate de-watering vessel
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	V0094-1
<i>Location Note</i>	west end of three discharge scrubbers		
<i>Device</i>	Vertical, 2' dia. by 14' long.		
<i>Description</i>			

**14 Condensate pump**

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<i>Device ID #</i>	<b>101228</b>	<i>Device Name</i>	<b>Condensate 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 2 hp electric motor		
<i>Description</i>			

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**15 Glycol reboiler**

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<i>Device ID #</i>	<b>003920</b>	<i>Device Name</i>	<b>Glycol reboiler</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	
<i>Manufacturer</i>	Texas Tanque Mfg. Co.	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	10945
<i>Location Note</i>			
<i>Device</i>	The vent stack is connected to the vapor recovery system; includes adjacent		
<i>Description</i>	horizontal glycol vapor scrubber 6'Lx4'D		

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**16 Glycol Discharge Condensate Scrubber**

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<i>Device ID #</i>	<b>101229</b>	<i>Device Name</i>	<b>Glycol Discharge Condensate Scrubber</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>	Horizontal, 4' dia. by 6' long, equipped with a water sealed gage hatch.		
<i>Description</i>			

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**17 Glycol Contactor**

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<i>Device ID #</i>	<b>101230</b>	<i>Device Name</i>	<b>Glycol Contactor</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	2382-T-1
<i>Location Note</i>	immediately south of glycol reboiler		
<i>Device</i>	Vertical, 2.5' dia. by 12.5' long, connected to the gas gathering system		
<i>Description</i>			

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**18 Wash Vessel**

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<i>Device ID #</i>	<b>101233</b>	<i>Device Name</i>	<b>Wash 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>	Vertical, 2.5' dia. by 12.5' high.		
<i>Description</i>			

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**19 Overflow Pit**

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<i>Device ID #</i>	<b>009882</b>	<i>Device Name</i>	<b>Overflow Pit</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	28.00 Square Feet Area
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	6' dia., located near the wastewater tank.		
<i>Description</i>			

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**20 Overflow Pit**

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<i>Device ID #</i>	<b>009883</b>	<i>Device Name</i>	<b>Overflow Pit</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	3.00 Square Feet Area
<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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**21 Pit Transfer Pump**

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<i>Device ID #</i>	<b>101234</b>	<i>Device Name</i>	<b>Pit Transfer 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 3 hp electric motor, serving the overflow pit		
<i>Description</i>			

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## 22 Fugitive Components

### 22.1 Fugitive Hydrocarbon Components - CARB/KVB

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<i>Device ID #</i>	<b>101237</b>	<i>Device Name</i>	<b>Fugitive Hydrocarbon Components - CARB/KVB</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>	Valves, fittings and flanges, not directly associated with other permitted equipment items, which emit fugitive hydrocarbon emissions. See Sect. 4.3 of PT70-8174-R3 for more information.		

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### 22.2 Fugitive Components - Component Leak Path Method - Valves

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<i>Device ID #</i>	<b>107237</b>	<i>Device Name</i>	<b>Fugitive Components - Component Leak Path Method - Valves</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	26.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

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### 22.3 Fugitive Components - Component Leak Path Method - Flanges

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<i>Device ID #</i>	<b>107238</b>	<i>Device Name</i>	<b>Fugitive Components - Component Leak Path Method - Flanges</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	153.00 Component Leakpath
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

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**22.4 Fugitive Components - Component Leak Path Method - PSV**

<i>Device ID #</i>	<b>107239</b>	<i>Device Name</i>	<b>Fugitive Components - Component Leak Path Method - PSV</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.00 Component Leakpath
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>			

**B EXEMPT EQUIPMENT**

**1 Diesel Storage Tank**

<i>Device ID #</i>	<b>101235</b>	<i>Device Name</i>	<b>Diesel Storage Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	155.00 BBL
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>	Not connected to vapor recovery.		

**2 Lube Oil Tanks**

<i>Device ID #</i>	<b>101238</b>	<i>Device Name</i>	<b>Lube Oil Tanks</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer Model</i>		<i>Operator ID Serial Number</i>	
<i>Part 70 Insig?</i>	No	<i>APCD Rule Exemption:</i>	
<i>Location Note</i>			
<i>Device Description</i>			

### 3 Heat Exchanger

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<i>Device ID #</i>	<b>101240</b>	<i>Device Name</i>	<b>Heat Exchanger</b>
<i>Rated Heat</i>		<i>Physical Size</i>	
<i>Input</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>			
<i>Description</i>			

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### 4 Jacket Water Pumps

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<i>Device ID #</i>	<b>101241</b>	<i>Device Name</i>	<b>Jacket Water Pumps</b>
<i>Rated Heat</i>		<i>Physical Size</i>	
<i>Input</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>			
<i>Description</i>			

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### 5 Air Compressors

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<i>Device ID #</i>	<b>101242</b>	<i>Device Name</i>	<b>Air Compressors</b>
<i>Rated Heat</i>		<i>Physical Size</i>	
<i>Input</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>			
<i>Description</i>			

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**6 Jacket Water Cooler**

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<b>Device ID #</b>	<b>101243</b>	<b>Device Name</b>	<b>Jacket Water Cooler</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Aerovap	<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 Description</i>			

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**E DE-PERMITTED EQUIPMENT****1 Gas Compressor**

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<b>Device ID #</b>	<b>101222</b>	<b>Device Name</b>	<b>Gas Compressor</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	150.00 Horsepower (Electric Motor)
<i>Manufacturer</i>	Ingersoll Rand	<i>Operator ID</i>	
<i>Model</i>	4 HHE-5	<i>Serial Number</i>	6X4237
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Horizontal opposed reciprocating compressor used to ship produced gas from the Orcutt Hill Oilfield.		

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**2 Road Oil Tank**

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<b>Device ID #</b>	<b>003918</b>	<b>Device Name</b>	<b>Road Oil Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	1000.00 BBL
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	21.5' dia. by 16' high, connected to vapor recovery.		

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## 10.6 Facility Net Emissions Increase (NEI) Table

This facility was installed prior to 1990, however there are post-1990 modifications that are documented in permitting actions since 1990. These modifications are included in the NEI calculation for this facility below:

NEI Equation:  $NEI = I + (P1 - P2) - D$

where:

I = Potential to emit of the modification

P1 = All prior PTE increases requiring permits on or after November 15, 1990

P2 = All prior PTE decreases requiring permits on or after November 15, 1990

D = Pre-1990 baseline actual emission decreases

Facility Emissions Summary  
 Orcutt Hill Compressor Plant FID 4104

I. This Projects "I" NEI-90

Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb day	ton yr										
RS174-R5													

II. This Facility's "P1s"

Enter all facility "P1" NEI-90s below:

Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb day	ton yr										
P11580	3-29-2006			1.55	0.28								
A12032	9-26-2006			0.92	0.17								
A12767	8-8-2008			6.00	1.10								
<b>Totals</b>		<b>0.00</b>	<b>0.00</b>	<b>8.47</b>	<b>1.55</b>	<b>0.00</b>							

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

III. This Facility's "P2" NEI-90 Decreases

Enter all facility "P2" NEI-90s below:

Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb day	ton yr										
<b>Totals</b>		<b>0.00</b>											

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

IV. This Facility's Pre-90 "D" Decreases

Enter all facility "D" decreases below:

Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb day	ton yr										
P11580	3-29-2006			1.02	0.19								
P12032	9-26-2006			0.90	0.16								
A12767	8-8-2008			1.32	0.24								
<b>Totals</b>		<b>0.00</b>	<b>0.00</b>	<b>3.24</b>	<b>0.59</b>	<b>0.00</b>							

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

V. Calculated This Facility's NEI-90

Table below summarizes facility NEI-90 as equal to: I - (P1-P2) - D

Term	NOx		ROC		CO		SOx		PM		PM10	
	lb day	ton yr										
Project "I"	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P1	0.00	0.00	8.47	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	0.00	0.00	3.24	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>FNEI-90</b>	<b>0.00</b>	<b>0.00</b>	<b>5.23</b>	<b>0.96</b>	<b>0.00</b>							

Notes: (1) Resultant FNEI-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.

## **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:** Section 1.2.1 Facility Overview: This section lists road oil storage equipment. The 1000 bbl Road Oil Tank has been demo'd and a permit has been applied for to build a new 1000 bbl waste water tank. Please delete reference to this tank.

**APCD Response:** Reference removed. Road oil tank removed from permit.

2. **BreitBurn Comment:** Section 1.3 Emission Sources list three gas compressors, two of the compressors are electric, and the third compressor is the Clark, which is limited to 200 hours of operation.

**APCD Response:** Section 1.3 updated to reflect one emitting compressor.

3. **BreitBurn Comment:** Section 1.3 Please delete reference to the Road Oil Tank.

**APCD Response:** Reference removed. Road oil tank removed from permit.

4. **BreitBurn Comment:** Section 3.1 Rule 202 – De-minimus. Please correct the spelling of BreitBurn.

**APCD Response:** Spelling corrected.

5. **BreitBurn Comment:** Table 5. Please delete reference to the Road Oil Tank

**APCD Response:** Road oil tank removed from permit.

6. **BreitBurn Comment:** Condition C.2. Please delete this condition, the Road Oil Tank is no longer there, it has been demo'd.

**APCD Response:** Condition deleted. Road oil tank removed from permit.

7. **BreitBurn Comment:** Condition D.7. Please delete this condition, the Road Oil Tank is no longer there, it has been demo'd.

**APCD Response:** Condition deleted. Road oil tank removed from permit.

8. **BreitBurn Comment:** Equipment list. APCD Device Number 101222 Ingersol Rand Compressor has been de-permitted.

**APCD Response:** Device de-permitted.

9. **BreitBurn Comment:** Equipment List. APCD Device Number 003918 the Road Oil tank is no longer there, please indicate it as de-permitted and also remove it from the Fee Statement.

**APCD Response:** Device de-permitted.

