Proposed

PERMIT TO OPERATE 8174-R7
and
PART 70 OPERATING PERMIT 8174

PACIFIC COAST ENERGY COMPANY LP
ORCUTT HILL STATIONARY SOURCE
ORCUTT HILL COMPRESSOR PLANT

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

OPERATOR

Pacific Coast Energy Company

OWNERSHIP

Pacific Coast Energy Company

Santa Barbara County
Air Pollution Control District

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

June 2, 2015

TABLE OF CONTENTS

LIST OF ATTACHMENTS

LIST OF FIGURES AND TABLES

Page Number

ABBREVIATIONS/ACRONYMS

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

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (renewal of *Part 70 Operating Permit 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 8-hour ozone and PM_{10} ambient air quality standards.

Part 70 Permitting. The initial Part 70 permit for this facility was issued on May 22, 1999 in accordance with the requirements of the District's Part 70 operating permit program. This permit is the fifth 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 Pacific Coast Orcutt Hill Stationary Source, which is a major source for VOC[1], NO_X and CO. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the District, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "District-only" enforceable.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this 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. Several transfers of ownership/operator have since taken place and are listed below. The most recent change was a name change only from Breitburn Energy to Pacific Coast Energy Company (Pacific Coast Energy) which occurred in December 2011.

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

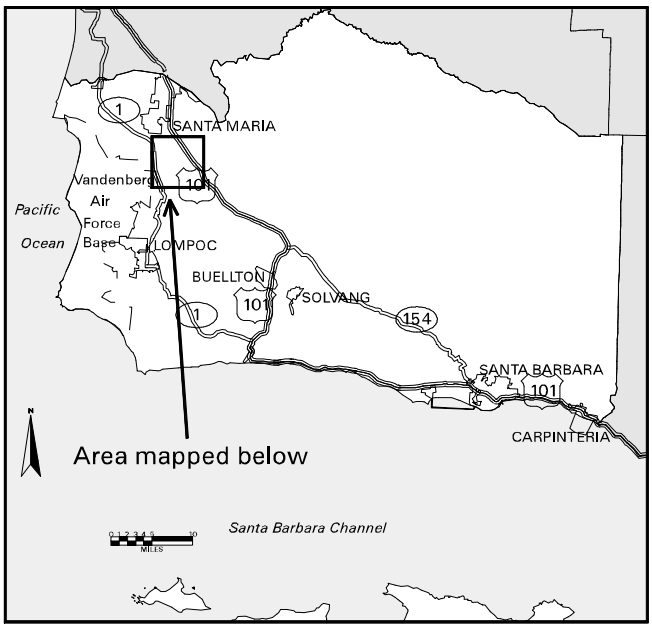
[1] VOC as defined in Regulation XIII has the same meaning as reactive organic compounds as defined in Rule 102. The term ROC shall be used throughout the remainder of this document, but where used in the context of the Part 70 regulation, the reader shall interpret the term as VOC.

December 2011	Pacific Coast Energy	Pacific Coast Energy

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

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

PACIFIC COAST ENERGY COMPANY
ORCUTT HILL STATIONARY SOURCE



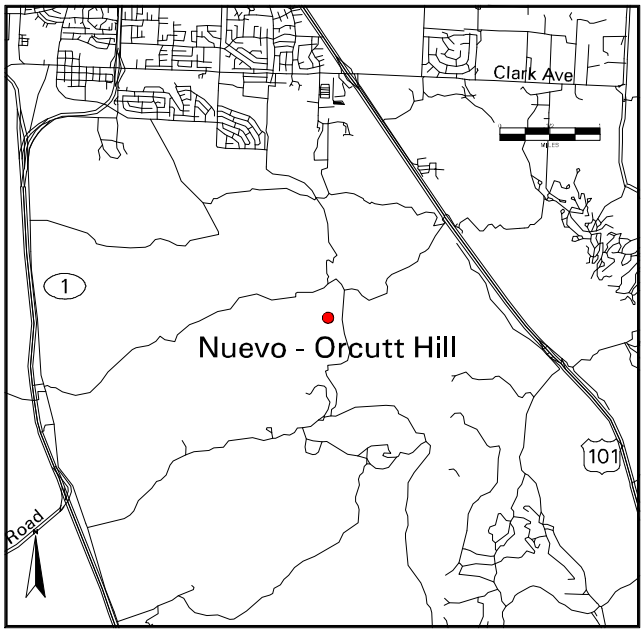


Figure 1.1 Location Map for the Orcutt Hill Compressor Plant

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

- California Coast Lease (FID 3206)
- Fox Lease (FID 3313)
- Dome Lease (FID 3314)
- Folsom Lease (FID 3316)
- Graciosa Lease (FID 3318)
- Hartnell Lease (FID 3319)
- Hobbs Lease (FID 3320)
- Newlove Lease (FID 3321)
- Pinal Lease (FID 3322)
- Rice Ranch Lease (FID 3323)
- Squires Lease (FID 3324)
- Getty-Hobbs Lease (FID 3495)
- Orcutt Hill Compressor Plant (FID 4104)
- Orcutt Hill Internal Combustion Engines (FID 4214)
- Orcutt Hill Steam Generators (FID 10482)
- Orcutt Hill Field (MVFF) (FID 1904)

The 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
- Wastewater storage equipment

Gas is gathered from the leases in the Pacific Coast Energy 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.

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, since installation of the original equipment, there have been several modifications to the facilities at this lease that were subject to 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

Permit Number	Issuance Date	Permitted Modification
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.
ATC 13161	8/18/09	Install a new wastewater tank.
ATC 13902		Replace an existing H_2S removal vessel with two H_2S removal vessels operating in series.
ATC 13902-01		Revise the number of fugitive components.
ATC 14343		Replace three pressure vessels.
ATC 14343-01		Revise the number of fugitive components.

1.3 Emission Sources

Emissions from the Orcutt Hill Compressor Plant consist of 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 District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

- One (1) gas compressors
- One (1) glycol reboiler
- One (1) waste water tank
- Two (2) wastewater (overflow) pits
- 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 District Rule 331 to reduce ROC emissions by approximately 80-percent.

→ A vapor recovery/gas collection (VRGC) system to collect reactive organic vapors from the gas/liquid separators, the glycol reboiler vent, and the tanks.

→ An H_2S removal system reduces the H_2S content of the produced gas for use as fuel.

1.5 Offsets/Emission Reduction Credit Overview

The Pacific Coast Energy Company Orcutt Hill stationary source triggers offsets for NO_x and ROC emissions. See section 7.3 for details. Control of the glycol reboiler vent described above in section 1.4 provides Emission Reduction Credits to the Point Pedernales Project. See section 7.4 for details.

1.6 Part 70 Operating Permit Overview

1.6.1 Federally-enforceable Requirements: All federally-enforceable requirements are listed in 40 CFR Part 70.2 (*Definitions*) under "applicable requirements". These include all SIP-approved District Rules, all conditions in the District-issued Authority to Construct permits, and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (*see Tables 3.1 and 3.2 for a list of federally-enforceable requirements)*

1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities must be listed in the Part 70 application with supporting calculations. Applicable requirements may apply to insignificant units.

1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 70.2. The federal PTE does include all emissions from any insignificant emissions units. None of the equipment at this facility is subject to a federal NSPS/NESHAP requirement, nor is it included in the 29-category list, therefore the federal PTE does not include fugitive emissions. (*See Section 5.4 for the federal PTE for this source)*

1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the District. Permit shields cannot be indiscriminately granted with respect to all federal requirements. The permittee has not made a request for a permit shield.

1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70

permit application and if such operations are allowed under federally-enforceable rules. The permittee made no request for permitted alternative operating scenarios.

1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application and be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A "responsible official" of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (*see Section 1.6.9 below)*

1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.

1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the implementation of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. (*see Sections 4.10 and 5.5).*

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

Richard Hart
Vice President of Operations
Pacific Coast Energy Company
1555 Orcutt Hill Rd.
Orcutt, CA 93455

2.0 Process Description

2.1 Process Summary

2.1.1 Gas Gathering: Produced gas and vapors from vapor recovery systems at leases located at the Pacific Coast Energy Orcutt Hill Stationary Source are 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 scrubbing system consisting of two H_2S removal vessels operating in series, remove 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. The engines are permitted on 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 District Rule 323, as verified through the rule-required recordkeeping.

2.3.2 Solvent Usage: Solvents not used for surface coating thinning may be used on the 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

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

- **Section D.6 De Minimis Exemptions**: This section requires Pacific Coast Energy to maintain a record of each *de minimis* change, which shall include emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the District upon request. As of April 2015, the de minimis total at the Pacific Coast Energy Orcutt Hill Stationary Source is: 18.16 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 perm*itted equi*pment, not involving structural changes.

- **Section D.14 Architectural Coatings**: Application of architectural coating in the repair and maintenance of a stationary structure is exempt from permit requirements.

- **Section U.2 Degreasing Equipment**: Single pieces of degreasing equipment, which use unheated solvent, and which: a) have a liquid surface area of less than 1.0 square foot unless the aggregate liquid surface area of all degreasers at a stationary source, covered by this exemption is greater than 10 square feet; and b) use only organic solvents with an initial boiling point of 302^{O} F or greater; or c) use materials with a volatile organic compound content of two-percent or less by weight as determined by EPA Method 24.

- **Section U.3 Wipe Cleaning**: Equipment used in wipe cleaning operations provided that the solvents used do not exceed 55 gallons per year. The permittee shall maintain records of the amount of solvents used for each calendar year. These records shall be kept for a minimum of 3 years and be made available to the District on request.

In addition, the following two Rule 202 permit exemptions may apply:

- **Section F.1.c Internal Combustion Engines**: Engines used to propel vehicles, as defined in Section 670 of the California Vehicle Code, but not including any engine mounted on such vehicles that would otherwise require a permit under the provisions of District Rules and Regulations.

- **Section F.2 Portable Internal Combustion Engines**: Portable ICEs eligible for statewide registration pursuant to Title 13, Section 2450 *et seq*., and not integral to the stationary source operations.

The following Rule exemptions have been approved by the District:

🕮 District Rule 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.

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

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

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

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

📖 District Rule 344 (*Petroleum Sumps, Pits and Well Cellars*): The post primary sumps and pits at the 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 District Regulation VIII (*New Source Review*) ensures that future modifications to the facility will comply with these regulations.

3.2 Compliance with Applicable Federal Rules and Regulations

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

3.2.2 40 CFR Part 60 {*New Source Performance Standards)*: The tanks at the 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. Information was submitted 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 District issued a letter agreeing with this exemption.

3.2.5 40 CFR Part 64 {Compliance Assurance Monitoring}: This rule became effective on April 22, 1998. This rule affects emission units at the source subject to a federally-enforceable emission limit or standard that uses a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. Compliance with this rule was evaluated and it was determined that no emission units at this facility are currently subject to CAM. All emission units at this facility have a pre-control emission potential less than 100 tons/year.

3.2.6 40 CFR Part 70 {*Operating Permits*}: This Subpart is applicable to the Orcutt Hill Compressor Plant. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the Orcutt Hill Compressor Plant. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to the Orcutt Hill Compressor Plant. These tables are based on data available from the District's administrative files and from the permittee's Part 70 Operating Permit renewal application filed on November 26, 2014. Table 3.4 includes the adoption dates of these rules.

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

3.3 Compliance with Applicable State Rules and Regulations

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

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

3.4 Compliance with Applicable Local Rules and Regulations

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

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

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

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

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

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

Rule 304 (Particulate Matter - Northern Zone): A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions.

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO_2 (by volume) and 0.3 gr/scf (at 12% CO_2) respectively.

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

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

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

Rule 321 - Solvent Cleaning Operations: This rule was revised on September 20, 2010 to fulfill the commitment in the 2001 and 2004 Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These proposed provisions apply to solvent cleaning machines and wipe cleaning.

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

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

Rule 324 - Disposal and Evaporation of Solvents: This rule prohibits any source from disposing more than one and a half gallons of any photochemically reactive solvent per day by means that

will allow the evaporation of the solvent into the atmosphere. The permittee will be required to maintain records to ensure compliance with this rule.

Rule 325 - Crude Oil Production and Separation: This rule 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. Ongoing compliance with the many provisions of this rule will be assessed via inspection by District personnel using an organic vapor analyzer and through analysis of operator records. The 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 District 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 352 - Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters: This rule applies to new water heaters rated less than 75,000 Btu/hr and new fan-type central furnaces. It requires the certification of newly installed units.

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

Rule 505 - Breakdown Conditions: This rule describes the procedures that the permittee must follow when a breakdown condition occurs to any emissions unit associated with the 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 District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
c. Is not the result of improper maintenance;
d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
e. Is not a recurrent breakdown of the same equipment.

Rule 810 - Federal Prevention of Significant Deterioration: This rule was adopted January 20, 2011 to incorporate the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

3.5 Compliance History

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

3.5.1 Facility Inspections. Routine facility inspections are conducted annually at this facility. The inspection reports for the inspections conducted since the previous permit renewal were reviewed as part of the current permit renewal process. Minor changes were made to the description of several equipment items as a result of the inspections..

3.5.2 Violations. There are two documented enforcement actions for this facility. These are listed below:

Notices of Violation Issued

Type	Number	Issued	Description
NOV	9083	04/07/09	Failure to submit asbestos demolition notification.
NOV	9560	07/12/10	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 Variances: The operator has not applied for any variances since the previous permit renewal.

Table 3.1 - Generic Federally-Enforceable District Rules

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

Generic Requirements	Affected Emission Units	Basis for Applicability
RULE 317: Organic Solvents	Emission units using solvents	Solvent used in process operations.
RULE 321: Solvent Cleaning Operations	Emission units using solvents	Solvent used in process operations.
RULE 322: Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
RULE 323: Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
RULE 323.I: Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.
RULE 324: Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
RULE 353: Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
RULE 505.A, B1, D: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Pacific Coast Energy Orcutt Hill is a major source.
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.
REGULATION XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	Pacific Coast Energy Orcutt Hill is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
RULE 331: 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.
RULE 360: Emissions of Oxides	Any new small boiler	New units rated from 75,000

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability
of Nitrogen from Large Water Boilers and Small Boilers.	installed at the facility.	Btu/hr to 2.000 MMBtu/hr.

Table 3.3 - Non-Federally-Enforceable District Rules

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

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

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	June 21, 2012
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	June 19, 2008
Rule 202	Exemptions to Rule 201	June 21, 2012
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 No.	Rule Name	Adoption Date
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	October 23, 1978
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	June 12, 2012
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323	Architectural Coatings	November 15, 2001
Rule 323.I	Architectural Coatings	June 19, 2014
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	July 19, 2001
Rule 326	Storage of Reactive Organic Compound Liquids	July 19, 2001
Rule 328	Continuous Emissions Monitoring	October 23, 1978
Rule 330	Surface Coating of Metal Parts and Products	June, 12, 2012
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 333	Control of Emissions from Reciprocating Internal Combustion Engines	June 19, 2008
Rule 342	Control of Oxides of Nitrogen (NOx) from Boilers, Steam Generators and Process Heaters	April 17, 1997
Rule 343	Petroleum Storage Tank Degassing	December 14, 1993
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 352	Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	October 20, 2011
Rule 353	Adhesives and Sealants	June 12, 2012

Rule No.	Rule Name	Adoption Date
Rule 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	January 17, 2008
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 810	Federal Prevention of Significant Deterioration (PSD)	June 20, 2013
Rule 901	New Source Performance Standards (NSPS)	September 20, 2010
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	January 20, 2011
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	January 18, 2001
Rule 1304	Issuance, Renewal, Modification and Reopening	January 18, 2001
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

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

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

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

4.2 Stationary Combustion Sources

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 are 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)

The internal combustion engines located at the Orcutt Hill Compressor Plant are included in PTO 8039.

4.3 Fugitive Hydrocarbon Sources

Emissions of reactive organic compounds from piping components (e.g., valves and connections), pumps, compressors and pressure relief devices associated with equipment installed prior to November 1990 have been quantified using emission factors pursuant to District P&P 6100.060.1996 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*).

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

The permittee has implemented a District-approved I&M program for leak detection and repair consistent with Rule 331 requirements. Ongoing compliance is determined in the field by inspection with an organic vapor analyzer and verification of operator records.

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 and one waste water tank. Fugitive emissions from the pits are uncontrolled. These emission estimates are based on District P&P 6100.060 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*). The calculation is:

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

where:

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

Attachment 10.2 contains an emission spreadsheet showing the detailed calculations for all 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_{10} 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_{10} when needed for compliance verifications. A PM/PM_{10} 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: The Pacific Coast Energy Orcutt Hill Stationary Source is a major source that is subject to the USEPA's Compliance Assurance Monitoring (CAM) rule (40 CFR 64). Any emissions unit at the facility with uncontrolled emissions potential exceeding major source emission thresholds (100 tpy) for any pollutant is subject to CAM provisions. It was determined that CAM was not applicable to any equipment units at this facility.

4.9 Source Testing/Sampling

Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis for issuing operating permits.

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 5.4-1. Potential HAP emissions from the facility are computed and listed in Table 5.4-2.

5.0 Emissions

5.1 General

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

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility. Section 5.6 provides the estimated emissions from permit exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7) provides the GHG emission factors, and section 5.8 documents the net emissions increase (NEI) calculation for the facility and the stationary source.

The District uses a computer database to accurately track the emissions from a facility.

Attachment 10.4 contains the District's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

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

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

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

5.3 Permitted Emission Limits - Facility Totals

The total potential-to-emit for all emission units associated with this facility were analyzed. This analysis looked at the reasonable worst-case operating scenarios for each operating period. The equipment operating in each of the scenarios are presented below. Unless otherwise specified, the operating characteristics defined in Table 5.1-1 for each emission unit are assumed. Table 5.2 shows the total permitted emissions for the facility.

5.4 Part 70: Federal Potential to Emit for the Facility

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

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

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

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

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

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

5.6 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to District Rule 202 include maintenance operations involving surface coating. In addition, *insignificant activities* such as maintenance operations using paints and coatings, contribute to the facility emissions. Device Number 101235 previously permitted as an adsorption oil tank is now in diesel storage service and is exempt.

5.7 Greenhouse Gas Emissions Computations

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 98. CO_2 equivalent emission factors are calculated for CO_2, CH_4, and N_2O individually, then summed to calculate a total CO_{2e} emission factor. Annual CO_{2e} emission totals are provided in Table 5.0 in short tons.

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

5.8 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 11.09 lb/day and 2.02 tpy ROC. The NEI for the entire Pacific Coast Energy Orcutt Hill Stationary Source) is provided below. A detailed listing of the stationary source NEI is provided in Attachment 10.4:

Table below summarizes Stationary Source NEI-90 as equal to sum of the stationary source facilities.

	NOx		ROC		CO		SOx		PM		PM10	
Term	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
SSN NEI-90	**80.47**	**11.36**	**127.45**	**18.42**	**149.83**	**21.96**	**23.17**	**3.79**	**54.42**	**7.83**	**54.42**	**7.83**

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 5.1-1
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Operating Equipment Description

			Device Specifications				Usage Data		Maximum Operating Schedule					
Equipment Category	**Description**	**Dev No**	**Feed**	**Parameter**	**Size**	**Units**	**Capacity**	**Units**	**Load**	**hr**	**day**	**qtr**	**year**	**References**
				S ppm										
External Combustion	Glycol Reboiler	003920	Gas	796	--	--	0.50	MMBtu/hr	1.0	1.0	24	2,190	8,760	A
				Service										
Tanks, Pits and Sumps	Overflow Pit	009882	O/W	Primary	28	ft^2	--	--	1.0	1.0	24	2,190	8,760	C
	Overflow Pit	009883	O/W	Primary	3	ft^2	--	--	1.0	1.0	24	2,190	8,760	C
	Waste Water Tank	112692	O/W	Tertiary	363	ft^2	--	--	1.0	1.0	24	2,190	8,761	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	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	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	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	111655	--	--	2	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Valves	112194	--	--	1	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	112195	--	--	7	clp	--	--	1.0	1.0	24	2,190	8,760	D
	PSV	112196	--	--	1	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Valves	115256	--	--	59	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	115256	--	--	228	clp	--	--	1.0	1.0	24	2,190	8,760	D
	PSV	115256	--	--	1	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Valves	386811	--	--	10	clp	--	--	1.0	1.0	24	2,190	8,760	D
	Flanges	386811	--	--	283	clp	--	--	1.0	1.0	24	2,190	8,760	D

References: See Attachmetn 10.0

Table 5.1-2
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Equipment Emission Factors

			Emission Factors							
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**PM_{10}**	**GHG**	**Units**
External Combustion	Glycol Reboiler	003920	0.0980	0.0054	0.0824	0.1361	0.0075	0.0075	117.00	lb/MMBtu
Tanks, Pits and Sumps	Overflow Pit	009882	--	0.0941	--	--	--	--	--	lb/ft^2-day
	Overflow Pit	009883	--	0.0941	--	--	--	--	--	lb/ft^2-day
	Waste Water Tank	112692	--	0.0058	--	--	--	--	--	lb/ft^2-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
	Valves (a)	112194	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	112195	--	0.022	--	--	--	--	--	lbs/day-clp
	PSV (a)	112196	--	2.068	--	--	--	--	--	lbs/day-clp
	Valves (a)	115256	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	115256	--	0.022	--	--	--	--	--	lbs/day-clp
	PSV (a)	115256	--	2.068	--	--	--	--	--	lbs/day-clp
	Valves (a)	386811	--	0.091	--	--	--	--	--	lbs/day-clp
	Flanges (a)	386811	--	0.022	--	--	--	--	--	lbs/day-clp

Notes:

(a) ROC emissions derived from P&P 6100.060.061(1998) by multiplying P&P Table 2 THC emission factors by a ratio of 0.31 ROC/THC.

Table 5.1-3
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Hourly and Daily Emissions

			NO_X		ROC		CO		SO_X		PM		PM_{10}		GHG		Enforcebility	
Equipment Category	Description	Dev No	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	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	58.50	1,404.00	A	--
Tanks, Pits and Sumps	Overflow Pit	009882	--	--	0.11	2.66	--	--	--	--	--	--	--	--	--	--	A	--
	Overflow Pit	009883	--	--	0.01	0.30	--	--	--	--	--	--	--	--	--	--	A	--
	Waste Water Tank	112692	--	--	0.01	0.16	--	--	--	--	--	--	--	--	--	--	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
	Valves	112194	--	--	0.00	0.02	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
	Flanges	112195	--	--	0.00	0.03	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
	PSV	112196			0.02	0.41	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
			--	--														
	Valves	115256	--	--	0.04	1.08	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	Flanges	115256	--	--	0.04	0.99	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	PSV	115256	--	--	0.02	0.41	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	Valves	386811	--	--	0.01	0.18	--	--	--	--	--	--	--	--	--	--	FE	PTO 14343
	Flanges	386811	--	--	0.05	1.23	--	--	--	--	--	--	--	--	--	--	FE	PTO 14343

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
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Quarterly and Annual Emissions

			NO_x		ROC		CO		SO_x		PM		PM_{10}		GHG		Enforcebility	
Equipment Category	Description	Dev No	TPQ	TPY	TPQ	TPY	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	64.06	256.23	A	--
Tanks, Pits and Sumps	Overflow Pit	009882	--	--	0.12	0.49	--	--	--	--	--	--	--	--	--	--	A	--
	Overflow Pit	009883	--	--	0.01	0.05	--	--	--	--	--	--	--	--	--	--		--
	Waste Water Tank	112692	--	--	0.01	0.03	--	--	--	--	--	--	--	--	--	--	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	0.09	--	--	--	--	--	--	--	--	--	--	FE	ATC 11580
	Flanges	107238	--	--	0.03	0.12	--	--	--	--	--	--	--	--	--	--	FE	ATC 11580
	PSV	107239	--	--	0.02	0.08	--	--	--	--	--	--	--	--	--	--	FE	ATC 11580
	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
	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
	Compressor Seals	111655	--	--	0.01	0.05	--	--	--	--	--	--	--	--	--	--	FE	ATC 12767
	Valves	112194	--	--	0.00	0.00	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
	Flanges	112195	--	--	0.00	0.01	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
	PSV	112196	--	--	0.02	0.08	--	--	--	--	--	--	--	--	--	--	FE	ATC 13161
	Valves	115256	--	--	0.05	0.20	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	Flanges	115256	--	--	0.05	0.18	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	PSV	115256	--	--	0.02	0.08	--	--	--	--	--	--	--	--	--	--	FE	PTO 13902
	Valves	386811	--	--	0.01	0.03	--	--	--	--	--	--	--	--	--	--	FE	PTO 14343
	Flanges	386811	--	--	0.06	0.22	--	--	--	--	--	--	--	--	--	--	FE	PTO 14343

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

Table 5.2
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Total Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combusion	0.05	0.00	0.04	0.07	0.00	0.00	58.50
Tanks, Pits and Sumps	--	0.13	--	--	--	--	--
Fugitive Components	--	0.57	--	--	--	--	--
	0.05	**0.70**	**0.04**	**0.07**	**0.00**	**0.00**	**58.50**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combusion	1.18	0.06	0.99	1.63	0.09	0.09	1,404.00
Tanks, Pits and Sumps	--	3.12	--	--	--	--	--
Fugitive Components	--	13.66	--	--	--	--	--
	1.18	**16.83**	**0.99**	**1.63**	**0.09**	**0.09**	**1,404.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combusion	0.05	0.00	0.05	0.07	0.00	0.00	64.06
Tanks, Pits and Sumps	--	0.14	--	--	--	--	--
Fugitive Components	--	0.62	--	--	--	--	--
	0.05	**0.77**	**0.05**	**0.07**	**0.00**	**0.00**	**64.06**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combusion	0.21	0.01	0.18	0.30	0.02	0.02	256.23
Tanks, Pits and Sumps	--	0.57	--	--	--	--	--
Fugitive Components	--	2.49	--	--	--	--	--
	0.21	**3.07**	**0.18**	**0.30**	**0.02**	**0.02**	**256.23**

Table 5.3
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R7
Federal Potential To Emit

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combustion	0.05	0.00	0.04	0.07	0.00	0.00	58.45
Tanks, Pits and Sumps	--	0.13	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	0.05	**0.15**	**0.04**	**0.07**	**0.00**	**0.00**	**58.45**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combustion	1.18	0.06	0.99	1.63	0.09	0.09	1,402.68
Tanks, Pits and Sumps	--	3.12	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	1.18	**3.19**	**0.99**	**1.63**	**0.09**	**0.09**	**1,402.68**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combustion	0.05	0.00	0.05	0.07	0.00	0.00	64.00
Tanks, Pits and Sumps	--	0.14	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	0.05	**0.16**	**0.05**	**0.07**	**0.00**	**0.00**	**64.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}	GHG
External Combustion	0.21	0.01	0.18	0.30	0.02	0.02	255.99
Tanks, Pits and Sumps	--	0.57	--	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--	--
	0.21	**0.59**	**0.18**	**0.30**	**0.02**	**0.02**	**255.99**

Table 5.4-1
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R6
Equipment Hazardous Air Pollutant Factors

			Emission Factors							
Equipment Category	**Description**	**Dev No**	**Formaldehyde**	**Hexane**	**Benzene**	**Toluene**	**Xylene**	**Iso-Octane**	**Units**	**References**
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	009882	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
	Wastewater Pit	009883	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/Wellheads	101237	0.0000	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
	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	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	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	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
Pacific Coast Orcutt Hill Compressor Plant: Permit to Operate 8174-R6
Daily and Annual Hazardous Air Pollution Emissions

			Formaldehyde		Hexane		Benzene		Toluene		Xylene		Iso-Octane	
Equipment Category	**Description**	**Dev No**	**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	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	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	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	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
Totals			**0.00**	**0.00**	**2.17**	**0.40**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.90**	**0.35**

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 Pacific Coast Energy Orcutt Hill Stationary Source is subject to the Air Toxics "Hot Spots" Program (AB 2588). A health risk assessment (HRA) for the Orcutt Hill facilities was prepared by the District on September 28, 1993 under the requirements of the AB 2588 program. The HRA is based on 1991 toxic emissions inventory data submitted to the District by Luft Environmental Consulting on behalf of the Unocal Corporation, the previous owners of the Orcutt Hill stationary source.

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

A second health risk assessment (HRA), based on the 2005 toxics emissions inventory, was prepared for the Orcutt Hill facilities in conjunction with the Diatomite Project permit process located on the Newlove Lease 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)	Heath Risk	Significant Risk Level
Inhalation Only	Cancer	12024	Boundary	735210	3858241	8.73	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1
Multi Pathway	Cancer	12024	Boundary	735210	3858241	9.80	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1

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

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

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

7.2 Clean Air Plan

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

On January 20, 2011 the District Board adopted the 2010 Clean Air Plan. The 2010 Plan provides a three-year update to the 2007 Clean Air Plan. As Santa Barbara County has yet to attain the state eight-hour ozone standard, the 2010 Clean Air Plan demonstrates how the District plans to attain that standard. The 2010 Clean Air Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

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

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

REACTIVE ORGANIC COMPOUNDS (ROC) NEI FROM PROJECT	Issuance Date	NOx TPQ	NOx TPY	ERC Certificate
I.C. Engines NEI From Previous Permits (P8039-R6)	29-Mar-09	0.060	0.239	249 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	0.418	1.670	249 [(a)(b)]
Newlove Diatomite Project (A12084-03)	5-Nov-10	1.505	6.020	249 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	15-Jun-12	0.273	1.090	249, [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	0.585	2.338	249 [(a)(b)]
		2.840	**11.357**	

EMISSION REDUCTION SOURCES	Emission Reduction Credits Used		Distance	Emission Liability	
	TPQ	TPY	Factor	TPQ	TPY
NOx ERCs	3.408	13.628	1.2	2.840	11.357
TOTAL	**3.408**	**13.628**		**2.840**	**11.357**

Notes:

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

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

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

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

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

REACTIVE ORGANIC COMPOUNDS (ROC) NEI FROM PROJECT	Issuance Date	ROC TPQ	ROC TPY	ERC Certificate
Pinal Replace 3,000 Bbl Wash Tank (P10752)	2-Jan-02	0.003	0.010	172 [(a)(b)]
Cal Coast Replace 2000 bbl Crude Tank (P10934)	10-Jun-03	0.030	0.120	172 [(a)(b)]
Cal Coast 750 Bbl Wash Tank (P10833)	25-Jun-03	0.018	0.070	172 [(a)(b)]
Cal Coast 750 Bbl Wastewater Tank (P11191)	12-Jul-04	0.035	0.140	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to Sulfur Scrubber (P11580)	25-Jul-05	0.023	0.090	172 [(a)(b)]
Orcutt MVFF (A11666)	27-Jul-05	0.010	0.040	172 [(a)(b)]
Steam Generator Modifications (A11405-01, A11405-02, & ATC/PTO 11405)	29-Mar-06	0.193	0.770	172 [(a)(b)]
I.C. Engines NEI From Previous Permits (P8039-R6)	29-Mar-06	0.003	0.010	172 [(a)(b)]
Compressor Plant Convert Inlet Scrubber to a Sulfur Scrubber (A12032)	5-Jun-07	0.003	0.010	172 [(a)(b)]
Compressor Plant New VRU & Component Update (A12767)	8-Aug-08	0.275	1.100	172 [(a)(b)]
Newlove Four New Wells (A13141)	16-Apr-09	0.010	0.040	172 [(a)(b)]
Newlove Throughput Increase (A13134)	15-Jun-09	0.043	0.170	172 [(a)(b)]
Newlove Thermal Oxidizer (A13000)	17-Jul-09	0.059	0.235	172 [(a)(b)(g)]
Compressor Plant Replaced Road Oil Tank with a Wastewater Tank (A13161)	18-Aug-09	0.028	0.110	172 [(a)(b)]
Squires Convert Liquid Knockout to a Sulfur Scrubber (A13296)	20-Nov-09	0.040	0.160	172 [(a)(b)]
Newlove Twenty-nine New Sx Sand Wells (A13140)	2-Dec-09	0.560	2.240	172 [(a)(b)]
Newlove Five Sx Wells (P13230) [(f)]	29-Dec-09	0.101	0.405	172 [(a)(b)]
Newlove New Sulfur Scrubber (A13397)	16-Jun-10	0.045	0.180	172 [(a)(b)]
Newlove Loading Rack (A13513) [(e)]	4-Nov-10	0.095	0.095	172 [(a)(b)]
Cal Coast Loading Rack & Throughput Increase (A13514) [(e)]	4-Nov-10	0.065	0.129	172 [(a)(b)]
Pinal Loading Rack & Throughput Increase (A13539) [(e)]	4-Nov-10	0.023	0.023	172 [(a)(b)]
Newlove Diatomite Project (A12084-03)	15-Nov-10	1.323	5.290	172 [(a)(b)]
I.C. Engines New 80 bhp Backup Generator for the Field Office (A13592) [(e)]	3-Feb-11	0.001	0.001	237 [(a)(b)]
Hartnell New H2S Scrubber at K7 (A13408)	3-May-11	0.058	0.230	172 [(a)(b)]
Newlove Vacuum Truck Washout Station (A13368)	10-Nov-11	0.222	0.889	172 [(a)(b)]
Newlove Replace 3,000 Bbl Wash Tank (A13948)	27-Sep-12	0.000	0.000	172 [(a)(b)]
Orcutt Compressor Plant H2S Scrubber Replacement (A13902)	7-Dec-12	0.043	0.170	270 [(a)(b)]
Newlove Diatomite Project (A12084-04)	21-Feb-13	0.938	3.753	270 [(a)(b)]
Newlove Lease Backup Vapor Recovery Unit (A14019)	15-Apr-13	0.045	0.179	270 [(a)(b)]
Cal Coast Lease Vapor Recovery Compressors (A14179-01)	11-Dec-14	0.005	0.018	296 [(a)(b)]
Pinal Lease Vapor Recovery Compressors (A14180-01)	11-Dec-14	0.018	0.073	296 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.060	0.240	269 [(a)(b)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.011	0.043	296 [(a)]
Orcutt Hill Compressor Plant H2S Scrubber Fugitives (AM 13902-01)	7-Mar-14	0.042	0.167	270 [(a)]
Orcutt Hill Compressor Plant Pressure Vessel Replacement (A14343)	10-Mar-14	0.044	0.176	288 [(a)]
Newlove Lease Tank, Separators, and Heat Exchangers (A14385)	14-Oct-14	0.195	0.790	345 [(a)(b)]
Orcuttt Hill Compressor Plant Pressure Vessek Replacement (AM 14343-01)	28-Oct-14	0.020	0.081	329 [(a)(b)]
Cal Coast Lease Replacement Crude Oil Tank (AM 14223-01)	13-Jan-15	0.025	0.100	269 [(a)(b)]
		4.707	**18.347**	

EMISSION REDUCTION SOURCES	Emission Reduction Credits Used		Distance	Emission Liability	
	TPQ	TPY	Factor	TPQ	TPY
ROC ERCs	1.046	3.304	1.2	0.872	2.753
NOx ERCs	4.602	18.745	1.2	3.835	15.621
TOTAL	**5.648**	**22.049**		**4.707**	**18.374**

Notes:

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

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

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

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

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

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

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

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

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

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

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 Freeport-McMoRan Point Pedernales Project. This facility was included in the emission reduction agreement between Unocal and the District dated August 11, 1986. The ROC credits come from the control of emissions 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 District's knowledge, no other governmental agency's permit requires air quality mitigation.

9.0 Permit Conditions

This section lists the applicable permit conditions for the 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., District only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the District, the State of California and the public. Conditions listed in Section D are enforceable only by the District and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

For the purposes of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this permit, nothing in the permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the 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, District Rules 1303.D.1]*

(g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

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

A.3 **Compliance Plan.**

(a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in the Compliance Plan.

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

A.4 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

(a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;

(b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;

(c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [*Re: District Rule 1303.D.2*]

A.5 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules.

The permittee shall apply for renewal of the Part 70 permit not later than 6-months before the date of the permit expiration. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [*Re: District Rule 1304.D.1*]

A.6 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6*]

A.7 **Prompt Reporting of Deviations.** The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. *[District Rule 1303.D.1, 40 CFR 70.6(a) (3)]*

A.8 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Monitoring/Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [*Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c*]

A.9 **Federally-Enforceable Conditions.** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. [*Re: CAAA, § 502(b)(6), 40 CFR 70.6*]

A.10 **Recordkeeping Requirements.** Records of required monitoring information shall include the following:

(a) The date, place as defined in the permit, and time of sampling or measurements;
(b) The date(s) analyses were performed;
(c) The company or entity that performed the analyses;
(d) The analytical techniques or methods used;
(e) The results of such analyses; and
(f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [*Re: District Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)*]

A.11 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

(a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.

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

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

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

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

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

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

9.B. Generic Conditions

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

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

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

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

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

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

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

B.5 **Sulfur Content of Fuels (Rule 311).** The permittee shall not burn fuels with a sulfur content in excess of 796 ppm_{vd} or 50 gr/100 scf (calculated as H_2S) for gaseous fuel. Compliance with this condition shall be based on annual measurements of the fuel gas using Draeger tubes, ASTM, or other District-approved methods. [*Reference: District 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.4 of this permit. [*Re: District 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.4 of this permit and facility inspections. [*Re: District 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.4 of this permit and facility inspections. [*Re: District 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.4 of this permit and facility inspections. [*Re: District 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 District 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: District 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: District Rule 202*]

9.C Requirements and Equipment Specific Conditions

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

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

Dev No	Equipment
101237	Valves, flanges and other components in hydrocarbon service
107127-107129	Valves, flanges and other components in hydrocarbon service
108773-108775	Valves, flanges and other components in hydrocarbon service
111654-111657	Valves, flanges and other components in hydrocarbon service
115256	Valves, flanges and other components in hydrocarbon service
386811	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 District Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit. In addition the permittee shall meet the following requirements:

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

(ii) *I&M Program:* The District-approved I&M Plan dated August 30, 2005 (approved by the District on September 27, 2005) and any updates shall be implemented for the life of the project. The Plan, and any subsequent District approved revisions, is incorporated by reference as an enforceable part of this permit. An updated Fugitive Emissions Inspection and Maintenance Plan must be submitted to the District for review and approval within one calendar quarter whenever there is a change in the component list or diagrams.

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

(c) Monitoring: The equipment listed in this section are subject to all the monitoring requirements listed in District Rule 331.F. The test methods in Rule 331.H shall be used, when applicable.

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

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

C.2 **Sumps, Pits and Waste Water Tank.** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
009882	Wastewater Pit, 6 foot diameter
009883	Wastewater Pit, 2 foot diameter
112692	1,000 bbl Waste Water Tank

(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 District Rule 344. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit.

(c) Monitoring: The above identified devices shall be subject to the following monitoring requirements:

(i) Applicable monitoring requirements shall comply with District Rule 344.
(ii) For all degassing events, monitor the volume purged, characteristics of the vapor purged, and control device/method used.

(d) Recordkeeping: The above identified devices shall be subject to the following recordkeeping requirements:

(i) Applicable recordkeeping requirements shall comply with District Rule 344.
(ii) Maintain a log of all degassing events, and record all the parameters listed in Condition 3(c) (ii) above.

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

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

Dev No	Description
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.

(b) 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 Pacific Coast 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 District Rule 331.)

(d) Recordkeeping: None

(e) Reporting: None

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:

Solvent Type	lbs/hour	lbs/day
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 District Rules 317, 322, 323 and 324. Compliance with these rules shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit and facility inspections.

(i) *Reclamation Plan*: The permittee may submit a Plan to the District for the disposal of any reclaimed solvent. If the Plan is approved by the District, all solvent disposed of pursuant to the Plan will not be assumed to have evaporated as emissions into the air and, therefore, will not be counted as emissions from the source. The permittee shall obtain District approval of the procedures used for such a disposal Plan. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent. Further, the ultimate fate of these reclaimed solvents must be stated in the Plan.

(c) Monitoring: None

(d) Recordkeeping: The permittee shall record in a log the following on a monthly basis for each solvent used: amount used; the percentage of ROC by weight (as applied); the solvent density; the amount of solvent reclaimed for District-approved disposal; whether the solvent is photochemically reactive; and, the resulting emissions to the atmosphere in units of pounds per month and pounds per day. Product sheets (MSDS or equivalent) detailing the constituents of all solvents shall be maintained in a manner readily accessible to District inspection.

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

C.5 **Emission Offsets**. PCEC shall offset all oxides of nitrogen (NO_x) and reactive organic compound (ROC) emissions pursuant to Tables 7.3-1 and 7.3-2 of this permit. Emission reduction credits (ERCs) sufficient to offset the permitted quarterly NO_x and ROC emissions shall be in place for the life of the project.

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

C.7 **Requirements for Produced Gas.** The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following: (a) a system handling gas for fuel, sale, or underground injection; or (b) a flare that combusts reactive organic compounds; or (c) a device with an ROC vapor removal efficiency of at least 90% by weight. The provisions of this condition shall not apply to wells which are undergoing routine maintenance.

C.8 **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_2S at standard conditions, 60^o F and 14.7 psia) of the gaseous fuel burned at the facility shall not exceed 50 grains per 100 cubic feet (796 ppm_v). In order to ensure that this limit is not exceeded, the operator shall:

(i) Measure the H_2S content of the fuel gas on a weekly basis using Draeger tubes or an District-approved equivalent.

(ii) If the Draeger tube measurement indicates a H_2S content greater than 637 ppm_v, 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 District approved equivalent method.

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

C.9 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the District, with one hard copy and one PDF copy. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

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

(b) *Surface Coating and Solvent Usage*: On a monthly basis the amount of surface coating/solvent used; the percentage of ROC by weight (as applied); the surface coating/solvent density; the amount of solvent reclaimed; whether the surface coating/solvent is photochemically reactive; and, the resulting emissions of ROC and

photochemically reactive surface coatings/solvents to the atmosphere in units of pounds per month.

(c) Annual NO_x 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.

C.10 **Documents Incorporated by Reference.** Pacific Coast Energy shall implement, and operate in accordance with the plan listed below. The plan, including any District-approved updates thereof, is incorporated herein and shall have the full force and effect of a permit condition for this operating permit. This plan shall be implemented for the life of the project.

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

9.D District-Only Conditions

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

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

D.2 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

D.3 **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:

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

D.4 **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.5 **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.6 **Process Stream Sampling and Analysis.** The permittee shall sample analyze the process streams listed in Section 4.9 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to District approved ASTM methods and must follow traceable chain of custody procedures.

D.7 **Annual Compliance Verification Reports.** The permittee shall submit a report to the District, by March 1st of each year containing the information listed below and shall document compliance with all applicable permit requirements. These reports shall be in a format approved by the District. All logs and other basic source data not included in the report shall be available to the District upon request. Pursuant to Rule 212, the annual report shall include a completed *District Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the District website. The report shall include the following information:

(a) 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_x 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.8 **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

_____

_____

Date

NOTES:
(a) This permit supersedes all previous District permits issued for the Orcutt Hill Compressor Plant
(b) Permit Reevaluation Due Date: June 2, 2018
(c) Part 70 Operating Permit Expiration Date: June 2, 2018

10.0 Attachments

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

10.1 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_2S for all equipment
  - ⇒ Emission factors, shown below, are based on USEPA AP-42, Tables 1.4-2 & 1.4-1, (5th Edition, 2/96).

NO_X	ROC	CO	SO_X	PM	PM_{10}	Units
0.098	0.0054	0.0824	0.1361	0.0075	0.0075	lb/MMBtu

SO_2 emission factor is based on mass balance equation, based on fuel S. Thus:

⇒ SO_2 (lb/MMBtu) = 0.169 lb SO_2/scf of H_2S * 1/HHV * (ppmvd S in fuel)

Greenhouse Gas Emissions Computations:

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

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

Reference B - Petroleum Storage Tanks

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

Reference C - Pits, Sumps, Tanks

→ The maximum operating schedule is in units of hours;

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

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

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

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

Reference D - Components Emitting Fugitive ROCs

→ Emission factors are based on the *District 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 *District P&P 6100.061* guidelines for the component leak path method of calculating fugitive emissions.

10.2 Emission Calculation Spreadsheets

Attachment: A

Date: *04/09/15*

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	PTO 8174-R7	
Owner/Operator	Pacific Coast 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 H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0075	lb/MMBtu
PM_{10} Emission Factor	0.0075	lb/MMBtu
NO_x Emission Factor	0.0980	lb/MMBtu
SO_x Emission Factor	0.1361	lb/MMBtu
CO Emission Factor	0.0824	lb/MMBtu
ROC Emission Factor	0.0054	lb/MMBtu

RESULTS	**lb/hr**	**lb/day**	**TPY**
Nitrogen Oxides (as NO_2)	0.05	1.18	0.21
Sulfur Oxides (as SO_2)	0.07	1.63	0.30
PM_{10}	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

Attachment:	B
Company:	Pacific Coast Energy
PTO #:	PTO 8174-R7
Facility:	Orcutt Compressor Plant
Date:	1-Apr-15

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[a]	0.00	0.00	0.00
Sumps, Wastewater Tanks and Well Cellars[b]	0.13	3.12	0.57
Oil/Water Separators [b]	0.00	0.00	0.00
Pumps/Compressors/Well Heads[a]	0.00	0.00	0.00
Enhanced Oil Recovery Fields	0.00	0.00	0.00
Total Facility FHC Emissions (ROC)	**0.13**	**3.12**	**0.57**

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

Model #1: Number of wells on lease is less than 10 and the GOR is less than 500.
Model #2: Number of wells on lease is between 10 and 50 and the GOR is less than 500.
Model #3: Number of wells on lease is greater than 50 and the GOR is less than 500.
Model #4: Number of wells on lease is less than 10 and the GOR is greater than 500.
Model #5: Number of wells on lease is between 10 and 50 and the GOR is greater than 500.
Model #6: Number of wells on lease is greater than 50 and the GOR is greater than 500.

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)
Total:	0.0000	ROC (lb/well-day)

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^2-day)
Secondary	0.0126	(lb ROC/ft^2-day)
Tertiary	0.0058	(lb ROC/ft^2-day)

Surface Area and Type (emissions in lbs/day)

Description/Name	Number	Area (ft^2)	Primary	Secondary	Tertiary
Overflow Pit		28.27	2.66		
Overflow Pit		3.14	0.30		
					0.00
			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^2-day)
Secondary	0.0126	(lb ROC/ft^2-day)
Tertiary	0.0058	(lb ROC/ft^2-day)

Surface Area and Type (emissions in lbs/day)

Description/Name	Area (ft^2)	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^2-day)
Secondary	0.0126	(lb ROC/ft^2-day)
Tertiary	0.0058	(lb ROC/ft^2-day)

Surface Area and Type (emissions in lbs/day)

Description/Name	Area (ft^2)	Primary	Secondary	Tertiary
Wastewater Tank	363			0.16
			0.00	
			0.00	
		0.00	0.00	0.16

Oil/Water Separators

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

Emissions Factor: 560 (lb ROC/MM Gal)

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

ADMINISTRATIVE INFORMATION
Attachment: C (ATC 12032)
Pacific Coast Energy
Facility: Orcutt Hill Compressor Plant
Processed by: JJM
Date: 04/1/2012
Path & File Name:

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[1] Emission Factor (lb/day-clp)	ROC/THC Ratio	Uncontrolled ROC Emission (lb/day)	Control[2,3] Efficiency	Controlled ROC Emission (lb/hr)	Controlled ROC Emission (lb/day)	Controlled ROC Emission (Tons/Qtr)	Controlled ROC Emission (Tons/Yr)
Gas Condensate Service									
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	0.90	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
Sub Total	79			4.60		0.038	0.919	0.042	0.168
Total	**79**			**4.60**		**0.038**	**0.919**	**0.04**	**0.17**

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)"

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: D (ATC 12767)
Company: Pacific Coast Energy
Facility: Orcutt Hill Compressor Plant
Processed by: JJM
Date: 04/1/2015
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		**ROC[2] Emission**	**ROC/THC**	**Uncontrolled ROC**	**ROC**	**Controlled ROC**	**Controlled ROC**	**Controlled ROC**	**Controlled ROC**
Refinery		**Factor**	**Ratio**	**Emission**	**Control**	**Emission**	**Emission**	**Emission**	**Emission**
Offshore Platform									
Component	**Count[1]**	**(lbs/day-clp)**		**(lbs/day)**	**Eff**	**(lbs/hr)**	**(lbs/day)**	**(Tons/Qtr)**	**(Tons/year)**
Gas Condensate Service									
Valves - Acc/Inacc	240	0.295	0.31	21.95	0.80	0.18	4.39	0.20	0.80
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	120	0.070	0.31	2.60	0.80	0.02	0.52	0.02	0.10
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	4	6.670	0.31	8.27	0.80	0.07	1.65	0.08	0.30
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	366			34.15		0.28	6.83	0.31	1.25
Oil Service									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	0			0.000		0.00	0.00	0.00	0.00
Total	**366**			**34.15**		**0.28**	**6.83**	**0.31**	**1.25**

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

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: E (ATC 13161)
Company: Pacific Coast Energy
Facility: Orcutt Compressor Plant (ATC 13161)
Processed by: JJM
Date: 04/1/2012
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		**ROC[2] Emission Factor**	**ROC/THC Ratio**	**Uncontrolled ROC Emission**	**ROC Control Eff**	**Controlled ROC Emission**	**Controlled ROC Emission**	**Controlled ROC Emission**	**Controlled ROC Emission**
Refinery									
Offshore Platform									
Component	**Count[1]**	**(lbs/day-clp)**		**(lbs/day)**		**(lbs/hr)**	**(lbs/day)**	**(Tons/Qtr)**	**(Tons/year)**
Gas Condensate Service									
Valves - Acc/Inacc	1	0.295	0.31	0.09	0.80	0.00	0.02	0.00	0.00
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	7	0.070	0.31	0.15	0.80	0.00	0.03	0.00	0.01
Flanges - Unsafe		0.070	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.070	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.070	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Compressor Seals - To Atm		2.143	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Compressor Seals - To VRS		2.143	0.31	0.00	1.00	0.00	0.00	0.00	0.00
Compressor Seals - E-500		2.143	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Compressor Seals - E-100		2.143	0.31	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm	1	6.670	0.31	2.07	0.80	0.02	0.41	0.02	0.08
PSV - To VRS		6.670	0.31	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		6.670	0.31	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		6.670	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals		1.123	0.31	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		1.123	0.31	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		1.123	0.31	0.00	0.90	0.00	0.00	0.00	0.00
Sub Total	9			2.31		0.02	0.46	0.02	0.08
Oil Service									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	0			0.000		0.00	0.00	0.00	0.00
Total	**9**			**2.31**		**0.02**	**0.46**	**0.02**	**0.08**

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

FUGITIVE ROC EMISSIONS CALCULATION

ADMINISTRATIVE INFORMATION
Attachment: F (Sulfa Check Scrubber)
Pacific Coast Energy
Facility: Compressor Plant Sulfa Check Scrubber
Processed by: JJM
Date: April 1, 2015
Path & File Name:

Facility Type: (Choose one)									
Production Field	x								
Gas Processing Plant		**ROC[2] Emission Factor**	**ROC/THC Ratio**	**Uncontrolled ROC Emission**	**ROC Control**	**Controlled ROC Emission**	**Controlled ROC Emission**	**Controlled ROC Emission**	**Controlled ROC Emission**
Refinery									
Offshore Platform									
Component	**Count[1]**	**(lbs/day-clp)**		**(lbs/day)**	**Eff**	**(lbs/hr)**	**(lbs/day)**	**(Tons/Qtr)**	**(Tons/year)**
Gas Condensate Service									
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
Sub Total	180			7.77		0.06	1.55	0.07	0.28
Oil Service									
Valves - Acc/Inacc		0.0041	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Valves - Unsafe		0.0041	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Valves - E-500		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - E-100		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges - Acc/Inacc		0.0020	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges - Unsafe		0.0020	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges - E-500		0.0020	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges - E-100		0.0020	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Pump Seals - Single		0.0039	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Pump Seals - E-500		0.0039	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Pump Seals - E-100		0.0039	0.56	0.00	0.90	0.00	0.00	0.00	0.00
PSV - To Atm		0.2670	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.2670	0.56	0.00	1.00	0.00	0.00	0.00	0.00
PSV - E-500		0.2670	0.56	0.00	0.85	0.00	0.00	0.00	0.00
PSV - E-100		0.2670	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total	0			0.000		0.00	0.00	0.00	0.00
Total	**180**			**7.77**		**0.06**	**1.55**	**0.07**	**0.28**

Notes:
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.

Santa Barbara County APCD Fugitive ROC Emissions Calculation - CLP Method

ADMINISTRATIVE INFORMATION
Attachment G (PTO 14343)
Company: Pacific Coast Energy
Facility: Orcutt Compressor Plant
Processed by: JJM
Date: 4/1/2015October 1, 2014
Path & File Name:

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[1] Emission Factor (lb/day-clp)**	**ROC/THC Ratio**	**Uncontrolled ROC Emission (lb/day)**	**Control[2,3] Efficiency**	**Controlled ROC Emission (lb/hr)**	**Controlled ROC Emission (lb/day)**	**Controlled ROC Emission (Tons/Qtr)**	**Controlled ROC Emission (Tons/Yr)**
Gas Condensate Service									
Valves - Accessible/Inaccessible	10	0.295	0.31	0.91	0.80	0.01	0.18	0.01	0.03
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	0.90	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	283	0.070	0.31	6.14	0.80	0.05	1.23	0.06	0.22
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		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
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
Sub Total	293			7.06		0.059	1.411	0.064	0.258
Oil Service									
Valves - Accessible/Inaccessible		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 - Bellows		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv		0.0041	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A		0.0041	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C		0.0041	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D		0.0041	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E		0.0041	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Category G		0.0041	0.56	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible		0.002	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges/Connections - Unsafe		0.002	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A		0.002	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B		0.002	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C		0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D		0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E		0.002	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F		0.002	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges/Connections - Category G		0.002	0.56	0.00	0.92	0.00	0.00	0.00	0.00
PSV - To Atm/Flare		0.267	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.267	0.56	0.00	1.00	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 - Dual/Tandem		0.0039	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Sub Total	0			0.00		0.000	0.000	0.000	0.000
Total	**293**			**7.06**		**0.059**	**1.411**	**0.064**	**0.258**

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)"

Santa Barbara County APCD Fugitive ROC Emissions Calculation - CLP Method

ADMINISTRATIVE INFORMATION
Attachment: H
Company: Pacific Coast Energy
Facility: Comopressor Plant (PTO 13902)
Processed by: JJM
Date: 4/2015
Path & File Name:

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[1] Emission Factor (lb/day-clp)**	**ROC/THC Ratio**	**Uncontrolled ROC Emission (lb/day)**	**Control[2,3] Efficiency**	**Controlled ROC Emission (lb/hr)**	**Controlled ROC Emission (lb/day)**	**Controlled ROC Emission (Tons/Qtr)**	**Controlled ROC Emission (Tons/Yr)**
Gas Condensate Service									
Valves - Accessible/Inaccessible	59	0.295	0.31	5.40	0.80	0.04	1.08	0.05	0.20
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	0.90	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	228	0.070	0.31	4.95	0.80	0.04	0.99	0.05	0.18
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
Sub Total	288			12.41		0.103	2.482	0.113	0.453
Oil Service									
Valves - Accessible/Inaccessible		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 - Bellows		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Bellows / Background ppmv		0.0041	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Valves - Category A		0.0041	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Valves - Category B		0.0041	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Valves - Category C		0.0041	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category D		0.0041	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Valves - Category E		0.0041	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Valves - Category F		0.0041	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Valves - Category G		0.0041	0.56	0.00	0.92	0.00	0.00	0.00	0.00
Flanges/Connections - Accessible/Inaccessible		0.002	0.56	0.00	0.80	0.00	0.00	0.00	0.00
Flanges/Connections - Unsafe		0.002	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Flanges/Connections - Category A		0.002	0.56	0.00	0.84	0.00	0.00	0.00	0.00
Flanges/Connections - Category B		0.002	0.56	0.00	0.85	0.00	0.00	0.00	0.00
Flanges/Connections - Category C		0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category D		0.002	0.56	0.00	0.87	0.00	0.00	0.00	0.00
Flanges/Connections - Category E		0.002	0.56	0.00	0.88	0.00	0.00	0.00	0.00
Flanges/Connections - Category F		0.002	0.56	0.00	0.90	0.00	0.00	0.00	0.00
Flanges/Connections - Category G		0.002	0.56	0.00	0.92	0.00	0.00	0.00	0.00
PSV - To Atm/Flare		0.267	0.56	0.00	0.80	0.00	0.00	0.00	0.00
PSV - To VRS		0.267	0.56	0.00	1.00	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 - Dual/Tandem		0.0039	0.56	0.00	1.00	0.00	0.00	0.00	0.00
Sub Total	0			0.00		0.000	0.000	0.000	0.000
Total	**288**			**12.41**		**0.103**	**2.482**	**0.11**	**0.45**

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)"

11.3 Fee Calculations

FEE STATEMENT

PT-70/Reeval No. 08174 - R7
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	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101224	First Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101225	Second Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101226	Third Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101227	Condensate de-watering vessel	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
003920	Glycol reboiler	A3	0.500	491.08	Per 1 mil Btu	No	1	1.000	245.54	0.00	0.00	245.54
101228	Condensate pump	A2	2.000	33.94	Per total bhp	No	1	1.000	67.88	0.00	0.00	67.88
101229	Glycol Discharge Condensate Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101230	Glycol Contactor	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
106204	Inlet Sulfur Removal Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
108110	Outlet Sulfur Removal Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.333	21.80	0.00	0.00	21.80
108768	Inlet Liquid Knockout Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.333	21.80	0.00	0.00	21.80
101232	Outlet Liquid Knockout Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101233	Wash Vessel	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
009882	Overflow Pit	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
009883	Overflow Pit	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
101234	Pit Transfer Pump	A2	3.000	33.94	Per total bhp	No	1	1.000	101.82	0.00	0.00	101.82
101237	Fugitive Hydrocarbon Components - CARB/KVB	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
107239	Fugitive Components - Component Leak Path Method - PSV	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
107238	Fugitive Components - Component Leak Path Method - Flanges	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
107237	Fugitive Components - Component Leak Path Method - Valves	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
386811	Fugitive Hydrocarbon Components	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
111654	Valves - Gas Service	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
112695	Flanges & Connections - Gas Service	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46

111518	Gas Compressor K-5	A2	125.000	33.94	Per total rated hp	No	1	0.277	1,175.17	0.00	0.00	1,175.17
111526	K-5 Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
111525	K-5 Second Stage Suction Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
111524	K-5 First Stage Suction Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
111519	Gas Compressor K-6	A2	125.000	33.94	Per total bhp	No	1	0.277	1,175.17	0.00	0.00	1,175.17
111529	K-6 First Stage Suction Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
11	K-6 Second Stage Suction Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
111531	K-6 Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	0.277	18.13	0.00	0.00	18.13
112692	Wastewater Tank	A6	42.000	3.75	Per 1000 gal	No	1	1.000	157.50	0.00	0.00	157.50
115257	Vertical Vessel 1	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
115259	Vertical Vessel 2	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
386808	First Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
386809	Second Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
386810	Second Stage Discharge Scrubber	A1.a	1.000	65.46	Per equipment	No	1	1.000	65.46	0.00	0.00	65.46
	Device Fee Sub-Totals =								**$4,599.19**	**$0.00**	**$0.00**	
	Device Fee Total =											**$4,599.19**

Permit Fee

Fee Based on Devices **$4,599.19**

Fee Statement Grand Total = $4,599

Notes:

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

10.4 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 8174 – ORCUTT COMPRESSOR PLANT						
lb/day	1.18	12.94	0.99	1.63	0.09	0.09
tons/year	0.21	2.36	0.18	0.30	0.02	0.02

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 8174 - ORCUTT COMPRESSOR PLANT						
lb/day	1.18	16.83	0.99	1.63	0.09	0.09
tons/year	0.21	3.07	0.18	0.30	0.02	0.02

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

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 8174 - ORCUTT COMPRESSOR PLANT						
lb/day	1.18	3.19	0.99	1.63	0.09	0.09
tons/year	0.21	0.59	0.18	0.30	0.02	0.02

Table 4
Facility Exempt Emissions (FXMT)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 8174 – ORCUTT COMPRESSOR PLANT						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00

Facility Emissions Summary
Orcutt Hill Compresor Plant FID 4104

I. This Projects "I" NEI-90

Permit	Date	NOx		ROC		CO		SOx		PM		PM10	
No.	Issued	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
AM 14343-01	10/27/2014			0.45	0.08								

II. This Facility's "P1s"
Enter all facility "P1" NEI-90s below:

Permit	Date	NOx		ROC		CO		SOx		PM		PM10	
No.	Issued	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
P11580	03/29/06			1.55	0.28								
P12032	06/05/07			0.92	0.17								
A12767	08/08/08			6.00	1.10								
A13161	08/18/09			0.62	0.11								
A13902	12/7/2012			1.86	0.34								
AM 13902-01	3/7/2014			1.53	0.28								
ATC 14343	3/10/2014			4.06	0.74								
Totals		**0.00**	**0.00**	**16.54**	**3.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	Date	NOx		ROC		CO		SOx		PM		PM10	
No.	Issued	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
A13902	12/7/2012			0.91	0.17								
Totals		**0.00**	**0.00**	**0.91**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	Date	NOx		ROC		CO		SOx		PM		PM10	
No.	Issued	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
P11580	3/29/2006			1.02	0.19								
P12032	6/5/2007			0.90	0.16								
A14343	3/10/2014			3.07	0.56								
Totals		**0.00**	**0.00**	**4.99**	**0.91**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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

	NOx		ROC		CO		SOx		PM		PM10	
Term	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
Project "I"	0.00	0.00	0.45	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P1	0.00	0.00	16.54	3.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P2	0.00	0.00	0.91	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	0.00	0.00	4.99	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FNEI-90	**0.00**	**0.00**	**11.09**	**2.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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.

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

Facility FNEI-90 at this SSN

Facility No.	Facility Name	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
3206	Cal Coast	0.00	0.00	13.63	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3313	Fox	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3314	Dome	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3316	Folsom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3318	Graciosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3319	Hartnell	0.00	0.00	1.25	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3320	Hobbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3321	Newlove	63.38	10.03	82.85	14.27	130.07	19.84	20.55	3.41	51.05	7.22	51.05	7.22
3322	Pinal	0.00	0.00	12.72	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3323	Rice Ranch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3324	Squires	0.00	0.00	0.85	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3495	Getty-Hobbs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4104	Comp Plant	0.00	0.00	11.09	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4214	ICEs	11.04	0.24	0.60	0.01	9.27	0.21	0.58	0.01	0.06	0.01	0.06	0.01
10482	Steam Gens	6.05	1.09	4.26	0.77	10.49	1.91	2.04	0.37	3.31	0.60	3.31	0.60
1904	MVFF	0.00	0.00	0.20	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		**80.47**	**11.36**	**127.45**	**18.42**	**149.83**	**21.96**	**23.17**	**3.79**	**54.42**	**7.83**	**54.42**	**7.83**

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

10.5 Equipment List

Thursday, April 09, 2015
Santa Barbara County Air Pollution Control District – Equipment List

PT-70/Reeval 08174 R7 / FID: 04104 Orcutt Hill Compressor Plant / SSID: 02667

A PERMITTED EQUIPMENT

1 Gas Compressor

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

2 First Stage Discharge Scrubber

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

3 Second Stage Discharge Scrubber

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

4 Third Stage Discharge Scrubber

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

5 Condensate de-watering vessel

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

6 Glycol reboiler

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

7 Condensate pump

Device ID #	**101228**	***Device Name***	**Condensate pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	

Model		*Serial Number*	
Location Note			
Device Description	Driven by a 2 hp electric motor		

8 Glycol Discharge Condensate Scrubber

Device ID #	**101229**	***Device Name***	**Glycol Discharge Condensate Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Horizontal, 4' dia. by 6' long, equipped with a water sealed gage hatch.		

9 Glycol Contactor

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

10 Inlet Sulfur Removal Scrubber

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

11 Outlet Sulfur Removal Scrubber

Device ID #	**108110**	***Device Name***	**Outlet Sulfur Removal Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer	The Boardman Company	*Operator ID*	
Model		*Serial Number*	B-2440
Location Note			
Device Description	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.		

12 Inlet Liquid Knockout Scrubber

Device ID #	**108768**	***Device Name***	**Inlet Liquid Knockout Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer	C.D. Lyon Construction	*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	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.		

13 Outlet Liquid Knockout Scrubber

Device ID #	**101232**	***Device Name***	**Outlet Liquid Knockout Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Vertical, 3' dia. by 10' high		

14 Wash Vessel

Device ID #	**101233**	***Device Name***	**Wash Vessel**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	

Location Note	
Device Description	Vertical, 2.5' dia. by 12.5' high.

15 Overflow Pit

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

16 Overflow Pit

Device ID #	**009883**	***Device Name***	**Overflow Pit**
Rated Heat Input		*Physical Size*	3.00 Square Feet Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	2' dia., located near road oil tank		

17 Pit Transfer Pump

Device ID #	**101234**	***Device Name***	**Pit Transfer Pump**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Driven by a 3 hp electric motor, serving the overflow pit located near the road oil tank.		

18 Fugitive Components

18.1 Fugitive Hydrocarbon Components - CARB/KVB

Device ID #	**101237**	***Device Name***	**Fugitive Hydrocarbon Components -**

Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	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.		

18.2 Fugitive Components - Component Leak Path Method - PSV

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

18.3 Fugitive Components - Component Leak Path Method - Flanges

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

18.4 Fugitive Components - Component Leak Path Method - Valves

Device ID #	**107237**	***Device Name***	**Fugitive Components - Component Leak Path Method - Valves**
Rated Heat Input		*Physical Size*	26.00 Component

			Leakpath
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

18.5 Fugitive Hydrocarbon Components

Device ID #	**386811**	***Device Name***	**Fugitive Hydrocarbon Components**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Gas Service: 83 valves, 404 flanges, 3 PSVs; 80% control efficiency		

19 Fugitive Hydrocarbon Components

19.1 Valves - Gas Service

Device ID #	**112694**	***Device Name***	**Valves - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	1 clp		

19.2 Component Leak Path Method - Valves

Device ID #	**108773**	***Device Name***	**Component Leak Path Method - Valves**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	12 leak paths.		

19.3 Component Leak Path Method - PRDs

Device ID #	**108775**	***Device Name***	**Component Leak Path Method - PRDs**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	One leak path.		

19.3.1 Component Leak Path Method - Connections

Device ID #	**108774**	***Device Name***	**Component Leak Path Method - Connections**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	66 leak paths.		

19.3.2 Flanges/Connections - Gas Service

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

19.3.3 Pressure Relief Valves - Gas Service

Device ID #	**111653**	***Device Name***	**Pressure Relief Valves - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	

Location Note	
Device Description	4 clps

19.3.4 Valves - Gas Service

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

19.4 Compressor Seals - Gas Service

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

19.5 Flanges & Connections - Gas Service

Device ID #	**112695**	***Device Name***	**Flanges & Connections - Gas Service**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	7 clps		

19.6 Pressure Safety Valves - Gas Service

Device ID #	**112696**	***Device Name***	**Pressure Safety Valves - Gas Service**

Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	1 clp		

20 K-5 Gas Compression System

20.1 Gas Compressor K-5

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

20.2 K-5 Discharge Scrubber

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

20.3 K-5 Second Stage Suction Scrubber

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

20.4 K-5 First Stage Suction Scrubber

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

21 K-6 Gas Compression System

21.1 Gas Compressor K-6

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

21.2 K-6 First Stage Suction Scrubber

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

21.3 K-6 Second Stage Suction Scrubber

Device ID #	**111530**	***Device Name***	**K-6 Second Stage Suction Scrubber**

Rated Heat Input		*Physical Size*	
Manufacturer	Daniel Industries	*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

21.4 K-6 Discharge Scrubber

Device ID #	**111531**	***Device Name***	**K-6 Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer	Daniels Industries	*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

22 Wastewater Tank

Device ID #	**112692**	***Device Name***	**Wastewater Tank**
Rated Heat Input		*Physical Size*	1000.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	21.5 feet in diameter by 16 feet high. The tank is equipped with a blanket of produced gas and connected to the vapor recovery system.		

23 Vertical Vessel 1

Device ID #	**115257**	***Device Name***	**Vertical Vessel 1**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-4A
Model		*Serial Number*	
Location Note			
Device Description	H2S removal, in series with Vertical Vessel 2, 7' diameter by 16' seam to seam vertical height, design pressure less than or equal to 100 psig		

24 Vertical Vessel 2

Device ID #	**115259**	***Device Name***	**Vertical Vessel 2**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-4B
Model		*Serial Number*	
Location Note			
Device Description	H2S removal, in series with Vertical Vessel 1, 7' diameter by 16' seam to seam vertical height, design pressure less than or equal to 100 psig		

25 First Stage Discharge Scrubber

Device ID #	**386808**	***Device Name***	**First Stage Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-15
Model		*Serial Number*	
Location Note			
Device Description	3.0' dia. x 12.0' ht.		

26 Second Stage Discharge Scrubber

Device ID #	**386809**	***Device Name***	**Second Stage Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-25
Model		*Serial Number*	
Location Note			
Device Description	3.0' dia. x 12.0' ht.		

27 Second Stage Discharge Scrubber

Device ID #	**386810**	***Device Name***	**Second Stage Discharge Scrubber**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	V-35
Model		*Serial Number*	
Location Note			
Device Description	3.0' dia. x 12.0' ht.		

B EXEMPT EQUIPMENT

1 Diesel Storage Tank

Device ID #	**101235**	***Device Name***	**Diesel Storage Tank**
Rated Heat Input		*Physical Size*	155.00 BBL
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.V.2 Storage Of Refined Fuel Oil W/Grav <=40 Api	
Location Note			
Device Description	Not connected to vapor recovery.		

2 Lube Oil Tanks

Device ID #	**101238**	***Device Name***	**Lube Oil Tanks**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.V.3 Storage Of Lubricating Oils	
Location Note			
Device Description			

3 Heat Exchanger

Device ID #	**101240**	***Device Name***	**Heat Exchanger**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			

Device Description

4 Jacket Water Pumps

Device ID #	**101241**	***Device Name***	**Jacket Water Pumps**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.L.4 Water Cooling Towers/Ponds
Location Note			
Device Description			

5 Air Compressors

Device ID #	**101242**	***Device Name***	**Air Compressors**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.F.1.e. Compression ignition engines w/ bhp 50 or less
Location Note			
Device Description			

6 Jacket Water Cooler

Device ID #	**101243**	***Device Name***	**Jacket Water Cooler**
Rated Heat Input		*Physical Size*	
Manufacturer	Aerovap	*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:*	202.L.4 Water Cooling Towers/Ponds
Location Note			

Device Description	

7 Heat Exhanger

Device ID #	**114772**	***Device Name***	**Heat Exhanger**
Rated Heat Input		*Physical Size*	
Manufacturer		*Operator ID*	Air-X-Changers
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.L.1 Heat Exchangers	
Location Note			
Device Description	Max psi: 150 Max Temp.: 300 F.		