Santa Barbara County
Air Pollution Control District

DRAFT

PERMIT TO OPERATE 9029-R5
and
PART 70 RENEWAL OPERATING PERMIT 9029

BREITBURN ENERGY COMPANY LP (BREITBURN)
ORCUTT HILL STATIONARY SOURCE
HARTNELL LEASE

ORCUTT HILL OILFIELD
SANTA BARBARA COUNTY, CALIFORNIA

OPERATOR

BreitBurn Energy Company LP

OWNERSHIP

BreitBurn Energy Company LP

Santa Barbara County
Air Pollution Control District

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

April 6, 2009

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ABBREVIATIONS/ACRONYMS

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

1.0 Introduction

1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (APCD) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the APCD's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (renewal of *Part 70 Operating Permit 9029*) as well as the State Operating Permit (reevaluation of *Permit to Operate 9029*).

The County is currently designated as a nonattainment area for the state 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 APCD's Part 70 operating permit program. This permit is the third renewal of the Part 70 permit, and may include additional applicable requirements and associated compliance assurance conditions. The Hartnell Lease is a part of the BreitBurn 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 APCD, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "APCD-only" enforceable.

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

1.2 Facility Overview

1.2.1 General Overview: The Hartnell Lease, located approximately 2.5 miles south of the city of Orcutt, was previously owned and operated for many years by Unocal. The following transfers of ownership/operator have since taken place:

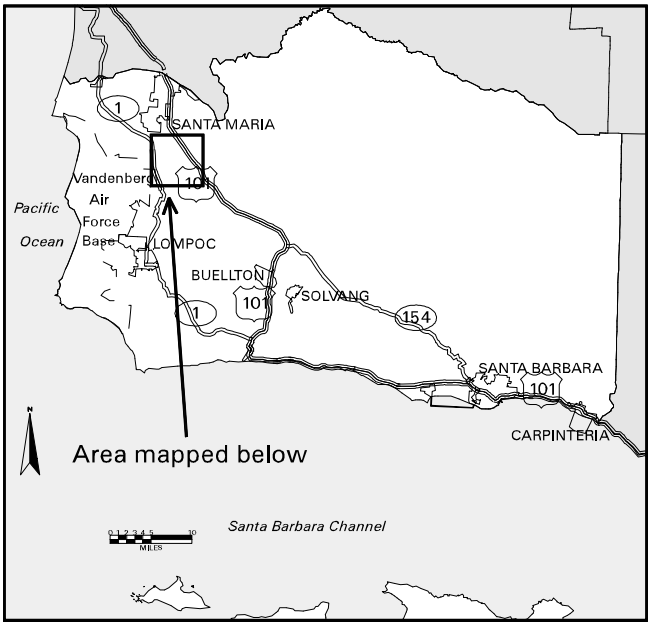
Date of Transfer	New Owner	New Operator
April 9, 1996	Nuevo Energy Company	Torch Operating Company
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company
November 5, 2004	BreitBurn Energy	BreitBurn Energy

[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.

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

BREITBURN - ORCUTT HILL STATIONARY SOURCE Stationary Source



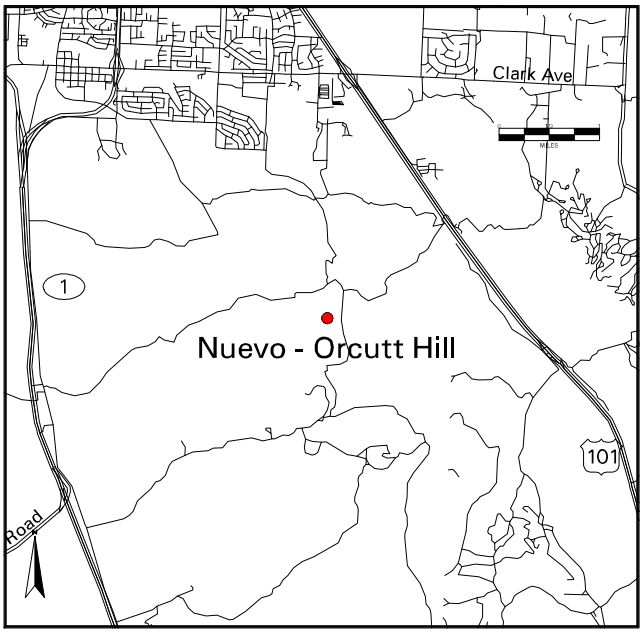


Figure 1.1 Location Map for the Hartnell Lease

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

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

The Hartnell Lease consists of the following oil and gas production systems:

- Oil & gas wells;
- Liquid and gas gathering and shipping systems.

Oil, water and gas are produced from nine wells on the Hartnell Lease. Electric motors or internal combustion engines (permitted under PTO 8039) drive the wells. The production from the wells is piped to the Cal Coast Lease tank battery for further processing. The gas is then sent to the Orcutt Hill Compressor Plant.

There is no equipment that is exempt from APCD permits (as defined in APCD Rule 202) on the Hartnell Lease.

1.2.2 Facility New Source Review Overview: The equipment on the Hartnell Lease was in place and operating before a permit to operate was required. Therefore, the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct.

1.3 Emission Sources

The emissions from the Hartnell Lease come from the oil and gas wells and their associated cellars, and fugitive emission components, such as valves and flanges. Section 4 of the permit provides the APCD's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

- Nine (9) oil and gas wells and two (2) well cellars;
- 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 Hartnell Lease for a number of emission units. The emission controls employed at the facility include:

→ An Inspection & Maintenance program for detecting and repairing leaks of hydrocarbons from piping components, i.e., valves, flanges and seals, consistent with the requirements of the APCD Rule 331 to reduce ROC emissions by approximately 80-percent.

→ A program to keep well cellars and emergency pits pumped out consistent with the requirements of APCD Rule 344.

1.5 Offsets/Emission Reduction Credit Overview

There have been no offsets required to date for projects at the BreitBurn Orcutt Hill Stationary Source. If Phase 2 of the Diatomite project is pursued, then NOx and ROC offsets will need to be provided for the entire stationary source NEI. In addition no Emission Reduction Credits have been registered in association with the Hartnell Lease.

1.6 Part 70 Operating Permit Overview

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

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

1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. (*See Section 5.4 for the federal PTE for this source)*

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

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

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

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

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

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

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

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

2.0 Process Description

2.1 Process Summary

2.1.1 Production - Oil, water, and gas are produced from nine wells on the Hartnell Lease. Two of the wells are equipped with cellars. Historically, the API gravity of the crude oil is 25 with a gas oil ratio of 501 scf/bbl. An electric motor or an internal combustion engine (PTO 8039) provide power to the pumping unit.

2.1.2 Gas/Liquid Separation - The produced oil, water and gas are piped to the Cal Coast Lease tank battery. The gas is then sent to the Orcutt Compressor Plant.

2.2 Support Systems

There are no additional support systems on the Hartnell Lease.

2.3 Maintenance/Degreasing Activities

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

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

2.4 Planned Process Turnarounds

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

2.5 Other Processes

2.5.1 Pits and Sumps: Other than the well cellars mentioned above, there are no pits or sumps on the Hartnell Lease.

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 Hartnell Lease.

3.1 Rule Exemptions Claimed

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

- **Section D.6 De Minimis Exemptions**: This section requires BreitBurn to maintain a record of each *de minimis* change, which shall include emission calculations demonstrating that each physical change meets the criteria listed in the Rule. This exemption applies to a project in the broadest sense. Such records shall be made available to the APCD upon request. Based on Breitburn logs as of January 2009, the de minimis totals at the BreitBurn Orcutt Hill Stationary Source are: 21.87 lbs ROC/day. The log and supporting calculations are currently under review,

- **Section D.8 Routine Repair and Maintenance**: A permit shall not be required for routine repair or maintenance of permitted equipment, not involving structural changes.

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

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

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

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

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

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

The following Rule exemptions have been approved by the APCD:

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

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

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

📖 APCD Rule 344 (*Petroleum Sumps, Pits and Well Cellars*): The well cellar on the Dome Lease is subject to Section D.3 of this rule. Compliance with this rule reduces well cellar emissions by 70-percent. For future modifications, compliance with APCD Regulation VIII (*New Source Review*), ensures that future modifications to the facility will comply with these regulations

3.2 Compliance with Applicable Federal Rules and Regulations

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

3.2.2 40 CFR Part 60 {*New Source Performance Standards*): This facility is not currently subject to the provisions of this Subpart.

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 Hartnell Lease currently is not subject to the provisions of this Subpart. Nuevo submitted information on October 26, 2000 indicating the Hartnell Lease is exempt from the requirements of MACT based on he 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 and 39,700 liters of oil per day. On February 27, 2002 the APCD issued a letter to Nuevo agreeing with this exemption.

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

3.2.6 40 CFR Part 70 {*Operating Permits*}: This Subpart is applicable to the Hartnell Lease. Table 3.1 lists the federally-enforceable APCD promulgated rules that are "generic" and apply to the Hartnell Lease. Table 3.2 lists the federally-enforceable APCD promulgated rules that are "unit-specific" that apply to the Hartnell Lease. These tables are based on data available from the APCD's administrative files and from the permittee's Part 70 Operating Permit renewal application filed on October 31, 2008. Table 3.4 includes the adoption dates of these rules.

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

3.3 Compliance with Applicable State Rules and Regulations

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

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

3.4 Compliance with Applicable Local Rules and Regulations

3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable APCD promulgated rules that apply to the Hartnell Lease. Table 3.4 lists the adoption date of all rules applicable to this permit at the date of this permit's issuance.

3.4.2 Rules Requiring Further Discussion: The last facility inspection occurred on May 22, 2008. The inspector reported that the facility was in compliance with all APCD rules and PTO conditions. This section provides a more detailed discussion regarding the applicability and compliance of certain rules.

The following is a rule-by-rule evaluation of compliance for this facility:

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

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

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

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

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

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

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H_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 Hartnell Lease to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H_2S) {or 796 ppmvd} for gaseous fuels. All piston IC engines on the lease are expected to be in compliance with the fuel limit as determined by required fuel analysis documentation.

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

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

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

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

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

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

Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production fields. The permittee has submitted an I&M Plan and received APCD approval of this Plan on September 27, 2005. Ongoing compliance with the many provisions of this rule will be assessed via inspection by APCD personnel using an organic vapor analyzer and through analysis of operator records. The Hartnell Lease does not perform any routine venting of hydrocarbons to the atmosphere. All gases routinely vented are directed to the gas gathering system.

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 permittee has instituted a program to monitor well cellars and pump them out if the thickness of the oil/petroleum products exceeds 2 inches or the cellar is over 50-percent full of any liquid. Compliance is determined through required recordkeeping and APCD inspection.

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

Rule 505 - Breakdown Conditions: This rule describes the procedures that the permittee must follow when a breakdown condition occurs to any emissions unit associated with the Hartnell Lease. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in the APCD Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

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

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

c. Is not the result of improper maintenance;

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

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

3.5 Compliance History

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

3.5.1 Variances: During the last three years, the operator has not applied for any variances.

3.5.2 Violations: During the last three years, no Notices of Violation (NOVs) or AI Docs have been issued for this facility.

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

Table 3.1 - Generic Federally-Enforceable APCD Rules

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 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	BreitBurn 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	BreitBurn Orcutt Hill is a major source.

Table 3.2 - Unit-Specific Federally-Enforceable APCD 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. ID #4-1.
RULE 344: Petroleum Wells, Sumps and Cellars	Well cellar	Compliance with the rule provides a 70% reduction in well cellar emissions.

Table 3.3 - Non-Federally-Enforceable APCD 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
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 APCD Rules Applicable at Issuance of Permit

Rule No.	Rule Name	Adoption Date
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	May 20, 1999
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	October 23, 1978
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978

Rule No.	Rule Name	Adoption Date
Rule 311	Sulfur Content of Fuels	October 23, 1978
Rule 317	Organic Solvents	October 23, 1978
Rule 321	Solvent Cleaning Operations	September 18, 1997
Rule 322	Metal Surface Coating Thinner and Reducer	October 23, 1978
Rule 323	Architectural Coatings	November 15, 2001
Rule 324	Disposal and Evaporation of Solvents	October 23, 1978
Rule 325	Crude Oil Production and Separation	January 18, 2001
Rule 331	Fugitive Emissions Inspection and Maintenance	December 10, 1991
Rule 342	Control of Oxides of Nitrogen (NOx) from Boilers, Steam Generators and Process Heaters	April 17, 1997
Rule 344	Petroleum Sumps, Pits and Well Cellars	November 10, 1994
Rule 353	Adhesives and Sealants	August 19, 1999
Rule 360	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers	October 17, 2002
Rule 361	Small Boilers, Steam Generators and Process Heaters	January 17, 2008
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	January 18, 2001
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	January 18, 2001

Rule No.	Rule Name	Adoption Date
Rule 1304	Issuance, Renewal, Modification and Reopening	January 18, 2001
Rule 1305	Enforcement	November 9, 1993

4.0 Engineering Analysis

4.1 General

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

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

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

4.2 Stationary Combustion Sources

There are no process heaters, boilers or steam generators on the Hartnell Lease. Any internal combustion engines on the Hartnell Lease 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 have been quantified using emission factors pursuant to APCD P&P 6100.060.1996 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*).

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

4.4 Tanks/Vessels/Sumps/Separators

4.4.1 Gas/Liquid Separation: The gas/liquid separators have been removed from the Hartnell Lease.

4.4.2 Pits, Sumps and Well Cellars: The Hartnell Lease is equipped with two well cellars. Well cellar emissions are reduced 70-percent for maintaining the cellar per the requirements of Rule 344. These emission estimates are based APCD P&P 6100.060 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities by the CARB/KVB Method - Modified for Revised ROC Definition*). The calculation is:

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

where:

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

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

4.5 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 Gas Gathering System

The gas gathering system collects gas from the wellheads and the gas/liquid separators. The collected vapors are piped to the Orcutt Hill Compressor Plant.

4.7 BACT/NSPS/NESHAP/MACT

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

4.8 CEMS/Process Monitoring/CAM

4.8.1 CEMS: There are no CEMS at this facility.

4.8.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. Once these process monitors are in place, it is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. This permit requires no specific monitors.

4.8.3 CAM: Breitburn - Orcutt Hill Stationary Source is a major source that is subject to the USEPA's Compliance Assurance Monitoring (CAM) rule (40 CFR 64). Any emissions unit at the facility

with uncontrolled emissions potential exceeding major source emission thresholds (100 tpy) for any pollutant is subject to CAM provisions. It was determined that CAM was not applicable to any equipment units at this facility.

4.9 Source Testing/Sampling

Source testing and sampling are required in order to ensure compliance with permitted emission limits, prohibitory rules, control measures and the assumptions that form the basis for issuing operating permits. This permit requires no source testing.

The Hartnell Lease process streams are not required to be sampled and analyzed.

4.10 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

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

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

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

5.0 Emissions

5.1 General

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

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 provides the federal potential to emit calculation using the definition of potential to emit used in Rule 1301. Section 5.5 provides the estimated HAP emissions from the facility. Section 5.6 (if applicable) provides the estimated emissions from permit exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7 (if applicable) provides the net emissions increase calculation for the facility and the stationary source. The APCD uses a computer database to accurately track the emissions from a facility. Attachment 10.4 contains the APCD's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

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

⇒ Nitrogen Oxides (NO_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})

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

5.3 Permitted Emission Limits - Facility Totals

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

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. Coating emissions, although exempt from permit requirements, are included in the federal potential to emit calculation. Fugitive emissions from the Hartnell Lease emissions units are not counted in the federal definition of potential to emit. However, fugitives are counted in the Federal PTE if the facility is subject to any applicable NSPS or NESHAP requirement.

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

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

5.6 Exempt Emission Sources/Part 70 Insignificant Emissions

Equipment/activities exempt pursuant to 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.

---

[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

5.7 *Net Emissions Increase Calculation*

The net emissions increase for the Hartnell Lease since November 15, 1990 (the day the Federal Clean Air Act Amendments were adopted in 1990) is zero. The NEI for the entire BreitBurn Orcutt Hill Stationary Source is as follows:

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

	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	**66.59**	**10.35**	**59.25**	**8.65**	**105.26**	**17.70**	**19.28**	**3.42**	**30.37**	**5.54**	**30.37**	**5.54**

Notes:

(1) Resultant SSN NEI-90 from above Section I thru IV data.

(2) Totals only apply to permits for this facility ID. Totals may not appear correct due to rounding.

(3) Because of rounding, values in this table shown as 0.00 are less than 0.005, but greater than zero.

(4) Includes Phase 1 and 2 NEI under ATC 12084.

Table below summarizes Stationary Source NEI-90 **(adjusted)**

	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	**33.59**	**4.33**	**32.54**	**4.42**	**48.26**	**7.30**	**8.17**	**1.39**	**12.37**	**2.25**	**12.37**	**2.25**

Notes:

(1) This Stationary Source NEI (adjusted) is applicable to all stationary source offset determinations until such time Phase 2 construction begins under ATC 12084. See NEI discussion in Engineering Evaluation in PTO 12273 for more details.

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Table 5.1-1
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
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**
Pits and Sumps	Well Cellars	002961	O/W	Primary	72	ft^2	--	--	1.0	1.0	24	2,190	8,760	A
Fugitive Components	Valves, Connections, etc	002959	--	--	9	wells	--	--	1.0	1.0	24	2,190	8,760	B
	Pumps/Compressors/Wellheads	002960	--	--	9	wells	--	--	1.0	1.0	24	2,190	8,760	

Table 5.1-2
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Equipment Emission Factors

			Emission Factors						
Equipment Category	**Description**	**Dev No**	**NO_X**	**ROC**	**CO**	**SO_X**	**PM**	**PM_{10}**	**Units**
Pits and Sumps	Well Cellars	002961	--	0.0282	--	--	--	--	lb/ft^2-day
Fugitive Components	Valves, Connections, etc	002959	--	--	--	--	--	--	--
	Pumps/Compressors/Wellheads	002960	--	--	--	--	--	--	--

Table 5.1-3
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Hourly and Daily Emissions

			NO_X		ROC		CO		SO_X		PM		PM_{10}		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**	**Type**	**Basis**
Pits and Sumps	Well Cellars	002961	--	--	0.08	2.03	--	--	--	--	--	--	--	--	A	
Fugitive Components	Valves, Connections, etc	002959	--	--	0.50	11.95	--	--	--	--	--	--	--	--	A	
	Pumps/Compressors/Wellheads	002960	--	--	0.01	0.15	--	--	--	--	--	--	--	--	A	

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

Table 5.1-4
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Quarterly and Annual Emissions

			NO_X		ROC		CO		SO_X		PM		PM_{10}		Enforcebility	
Equipment Category	**Description**	**Dev No**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**TPQ**	**TPY**	**Type**	**Basis**
Pits and Sumps	Well Cellars	002961	--	--	0.09	0.37	--	--	--	--	--	--	--	--	A	--
Fugitive Components	Valves, Connections, etc	002959	--	--	0.55	2.18	--	--	--	--	--	--	--	--	A	--
	Pumps/Compressors/Wellheads	002960	--	--	0.01	0.03	--	--	--	--	--	--	--	--	A	--

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

Table 5.2
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Total Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.08	--	--	--	--
Fugitive Components	--	0.50	--	--	--	--
	0.00	**0.59**	**0.00**	**0.00**	**0.00**	**0.00**

B. DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	2.03	--	--	--	--
Fugitive Components	--	12.10	--	--	--	--
	0.00	**14.13**	**0.00**	**0.00**	**0.00**	**0.00**

C. QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.09	--	--	--	--
Fugitive Components	--	0.55	--	--	--	--
	0.00	**0.64**	**0.00**	**0.00**	**0.00**	**0.00**

D. ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.37	--	--	--	--
Fugitive Components	--	2.21	--	--	--	--
	0.00	**2.58**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.3
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Federal Potential To Emit

A. PEAK HOURLY (lb/hr)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.08	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**

B. PEAK DAILY (lb/day)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	2.03	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**2.04**	**0.00**	**0.00**	**0.00**	**0.00**

C. PEAK QUARTERLY (tpq)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.09	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**0.10**	**0.00**	**0.00**	**0.00**	**0.00**

D. PEAK ANNUAL (tpy)

Equipment Category	NO_X	ROC	CO	SO_X	PM	PM_{10}
Pits and Sumps	--	0.37	--	--	--	--
Exempt Surface Coating	--	0.01	--	--	--	--
	0.00	**0.38**	**0.00**	**0.00**	**0.00**	**0.00**

Table 5.4-1
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Equipment Hazardous Air Pollutant Factors

			Emission Factors						
Equipment Category	**Description**	**Dev No**	**Hexane**	**Benzene**	**Toluene**	**Xylene**	**Iso-Octane**	**Units**	**References**
Pits and Sumps	Well Cellars	002961	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
Fugitive Components	Valves, Connections, etc	002959	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756
	Pumps/Compressors/Wellheads	002960	0.1768	0.0018	0.0000	0.0000	0.1554	lb/lb-ROC	CARB (1991) S.P. 756

Table 5.4-2
BreitBurn Hartnell Lease: Permit to Operate 9029-R5
Daily and Annual Hazardous Air Pollution Emissions

			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**
Pits and Sumps	Well Cellars	002961	0.36	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.06
Fugitive Components	Valves, Connections, etc	002959	2.11	0.39	0.02	0.00	0.00	0.00	0.00	0.00	1.86	0.34
	Pumps/Compressors/Wellheads	002960	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Totals			**2.50**	**0.46**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.20**	**0.40**

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

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for this stationary source.

6.2 Increments

An air quality increment analysis has not been required for this stationary source.

6.3 Monitoring

Air quality monitoring is not required for this stationary source.

6.4 Health Risk Assessment

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

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

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

Pathway	Health Impact Type	HARP Receptor Number	HARP Receptor Type	UTM Easting (NAD83, m)	UTM Northing (NAD83, m)	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 including an updated HRA will be required under the Air Toxics "Hot Spots" Program to ensure the source does not pose a significant risk.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County has been classified as non attainment for the state eight-hour ozone standard as well as the state 24-hour and annual PM_{10} ambient air quality standards. The County is either in attainment of or unclassified with respect to all other state ambient air quality standards.

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

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

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

7.2 Clean Air Plan

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

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

7.3 Offset Requirements

The BreitBurn Orcutt Hill stationary source does not currently require emission offsets. BreitBurn is required to provide offsets for the net emission increase at least two weeks prior to the onset of construction of Phase 2 of the Diatomite project located on the Newlove Lease. BreitBurn shall offset the maximum quarterly NO_x and ROC net emissions increase by reducing emissions at existing sources. Offset requirements for new projects at the Orcutt Hill stationary source prior to Phase 2 construction will be evaluated by excluding the Phase 2 contribution from the NEI total.

7.4 Emission Reduction Credits

There are no Emission Reduction Credits associated with the Hartnell Lease.

8.0 Lead Agency Permit Consistency

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

9.0 Permit Conditions

This section lists the applicable permit conditions for the Hartnell Lease. Section A lists the standard administrative conditions. Section B lists 'generic' permit conditions, including emission standards, for all equipment in this permit. Section C lists conditions affecting specific equipment. Section D lists non-federally-enforceable (i.e., APCD only) permit conditions. Conditions listed in Sections A, B and C are enforceable by the USEPA, the APCD, the State of California and the public. Conditions listed in Section D are enforceable only by the APCD and the State of California. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. In case of a discrepancy between the wording of a condition and the applicable federal or APCD rule(s), the wording of the rule shall control.

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

9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the Hartnell Lease:

A.1 **Compliance with Permit Conditions**

(a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.

(b) This permit does not convey property rights or exclusive privilege of any sort.

(c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

(d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.

(f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:

(i) compliance with the permit, or
(ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.

(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.

[*Re: 40 CFR Part 70.6, APCD Rule 1303.D.1]*

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

A.3 **Compliance Plan.**

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

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

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

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

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

(c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing.

[*Re: APCD Rule 1303.D.2*]

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

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

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

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

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

official, which certifies the truth, accuracy, and completeness of the reports. [*Re: APCD Rules 1303.D.1, 1302.D.3, 1303.2.c*]

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

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

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

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

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

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

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

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

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

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

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

9.B. Generic Conditions

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

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

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

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

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

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

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

B.5 **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.3 of this permit. [*Re: APCD Rule 317*]

B.6 **Metal Surface Coating Thinner and Reducer (Rule 322):** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance with this condition shall be based on the permittee's compliance with Condition C.3 of this permit and facility inspections. [*Re: APCD Rule 322*]

B.7 **Architectural Coatings (Rule 323):** The permittee shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on the permittee's compliance with Condition C.3 of this permit and facility inspections. [*Re: APCD Rules 323, 317, 322, 324*]

B.8 **Disposal and Evaporation of Solvents (Rule 324):** The permittee shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on the permittee's compliance with Condition C.3 of this permit and facility inspections. [*Re: APCD Rule 324*]

B.9 **Emergency Episode Plans (Rule 603):** During emergency episodes, the permittee shall implement the Emergency Episode Plan dated March 30, 1999. [*Reference APCD Rule 603*]

B.10 **Adhesives and Sealants (Rule 353):** The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:

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

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

B.11 **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.12 **CARB Registered Portable Equipment:** State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. [*Re: APCD Rule 202*]

9.C Requirements and Equipment Specific Conditions

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

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

Dev No	Equipment
002959	Valves, flanges and other components in hydrocarbon service

(a) Emission Limits: Fugitive emission limits are not federally-enforceable.

(b) Operational Limits: Operation of the equipment listed in this section shall conform to the requirements listed in APCD Rule 331.D and E. Compliance with these limits shall be assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit. In addition the permittee shall meet the following requirements:

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

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

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

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

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

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

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

C.2 **Well Cellars.** The following equipment are included in this emissions category:

Dev No	Equipment Name; Capacity, Size
002961	Well Cellars (2)

(a) Emission Limits: There are no federally-enforceable emission limits for well cellars.

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

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

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

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

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

(b) oil/petroleum depth exceeding 2 inches.

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

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

(d) Recordkeeping: The following information relating to detection of conditions requiring pumping of a well cellar as required in Section D.3.c shall be recorded for each detection:

(i) the date of the detection,

(ii) the name of the person and company performing the test or inspection, and

(iii) the date and time the well cellar is pumped.

(e) Reporting: None

[*Re: APCD Rules 344.D.3 and 344.G.2]*

C.3 **Solvent Usage.** The following items are included in this emissions unit category: Photochemically reactive solvents, surface coatings and general solvents.

(a) Emission Limits: The following solvent emission limits are federally-enforceable for the entire stationary source:

Solvent Type	**lbs/hour**	**lbs/day**
Photochemically Reactive	8 lbs/hour	40 lbs/day
Non-Photochemically Reactive	450 lbs/hour	3,000 lbs/day

(b) Operational Limits: Use of solvents for cleaning/degreasing shall conform to the requirements of APCD Rules 317, 322, 323 and 324. Compliance with these rules shall be

assessed through compliance with the monitoring, recordkeeping and reporting conditions in this permit and facility inspections.

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

(c) Monitoring: none

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

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

C.4 **Recordkeeping.** The permittee shall maintain all records and logs required by this permit or any applicable federal rule or regulation for a minimum of five calendar years from the date of information collection and log entry at the lease. These records or logs shall be readily accessible and be made available to the APCD upon request.

C.5 **Semi-Annual Monitoring/Compliance Verification Reports.** The permittee shall submit a report to the APCD every six months to verify compliance with the emission limits and other requirements of this permit. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. The second report shall also include an annual report for the prior four quarters. The report shall include the following information:

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

(b) *Surface Coating and Solvent Usage*: On a monthly basis the amount of surface coating/solvent used; the percentage of ROC by weight (as applied); the surface

coating/solvent density; the amount of solvent reclaimed; whether the surface coating/solvent is photochemically reactive; and, the resulting emissions of ROC and photochemically reactive surface coatings/solvents to the atmosphere in units of pounds per month.

(c) *Emissions***:** Annual NOx and ROC emissions from both permitted and exempt equipment.

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

C.7 **External Combustion Units--Permits Required**:

(a) An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.

(b) An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr.

(c) An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane.

9.D APCD-Only Conditions

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

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

D.2 **Defense of Permit:** The permittee agrees, as a condition of the issuance and use of this PTO, to defend at its sole expense any action brought against the APCD because of issuance of this permit. The permittee shall reimburse the APCD for any and all costs including, but not limited to, court costs and attorney's fees which the APCD may be required by a court to pay as a result of such action. The APCD may, at its sole discretion, participate in the defense of any such action, but such participation shall not relieve the permittee of its obligation under this condition. The APCD shall bear its own expenses for its participation in the action.

D.3 **Consistency with Analysis:** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the APCD's project file), and with the APCD's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit..

D.4 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

D.5 **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.6 **Abrasive Blasting Equipment.** All abrasive blasting activities performed on the Hartnell Lease shall comply with the requirements of the California Administrative Code Title 17, Sub-Chapter 6, Sections 92000 through 92530.

D.7 **Mass Emission Limitations**. Mass emissions for each equipment item (i.e., emissions unit) associated with the Hartnell Lease shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the entire facility shall not exceed the total limits listed in Table 5.2.

D.8 **Annual Compliance Verification Reports.** The permittee shall submit a report to the APCD, by March 1 of each year containing the information listed below and shall document compliance with all applicable permit requirements. These reports shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. Pursuant to Rule 212, the annual report shall include a completed *APCD Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the APCD website. The report shall include the following information:

(a) Breakdowns and variances reported/obtained per Regulation V along with the excess emissions that accompanied each occurrence
(b) The ROC and NO_X emissions from all permit exempt activities (tons per year by device/activity)
(c) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

Air Pollution Control Officer

_____

_____
Date

NOTES:
(a) This permit supersedes all previous APCD permits issued for the Hartnell Lease
(b) Permit Reevaluation Due Date: June 1, 2012
(c) Part 70 Operating Permit Expiration Date: June 1, 2012

10.0 Attachments

10.1 EMISSION CALCULATION DOCUMENTATION – HARTNELL LEASE:

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

Reference A – Pits, Sumps and Wastewater 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 APCD's guideline *"VOC/ROC Emission Factors and Reactivities for Common Source Types"* Table dated 07/13/98 (version 1.1).

Reference B - Pipeline Components Emitting Fugitive ROCs

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

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

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

Reference C -- Solvents

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

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

10.2 Emission Calculation Spreadsheets

FUGITIVE HYDROCARBON CALCULATIONS - CARB/KVB METHOD

ADMINISTRATIVE INFORMATION
Attachment: A
Company: BreitBurn Energy
Facility: Hartnell Lease
Processed by: AXR
February 4, 2009
Path & File Name:
\\sbcapcd.org\Shares\Groups\ENGR\WP\PT70SRCE\PERMITS\O&G-PROD\Breitburn Orcutt\Reevals\Third Reevals\Hartnell Lease\[R9029-R5 Permitted Wells.xls]She

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

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

Data	Value	Units
Number of Active Wells at Facility	9	wells
Facility Gas Production		scf/day
Facility Dry Oil Production		bbls/day
Facility Gas to Oil Ratio (if > 500 then default to 501)	501	scf/bbl
API Gravity	25	degrees API
Facility Model Number	4	dimensionless
No. of Steam Drive Wells with Control Vents	0	wells
No. of Steam Drive Wells with Uncontrol Vents	0	wells
No. of Cyclic Steam Drive Wells with Control Vents	0	wells
No. of Cyclic Steam Drive Wells with Uncontrol Vents	0	wells
Composite Valve and Fitting Emission Factor	6.6409	lb/day-well

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

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

ROC Emission Calculation Summary Results Table
Reactive Organic Compounds[c]

	lbs/hr	lbs/day	tons/year
Valves and Fittings[a]	0.50	11.95	2.18
Sumps, Wastewater Tanks and Well Cellars[b]	0.08	2.03	0.37
Oil/Water Separators [b]	0.00	0.00	0.00
Pumps/Compressors/Well Heads[a]	0.01	0.15	0.03
Enhanced Oil Recovery Fields	0.00	0.00	0.00
Total Facility FHC Emissions (ROC)	**0.59**	**14.13**	**2.58**

a: Emissions amount reflect an 80% reduction due to Rule 331 implementation.
b: Emissions reflect control efficiencies where applicable.
c: Due to rounding, the totals may not appear correct

Emission Calculation by Emission Unit

Pumps, Compressors, and Well Heads Uncontrolled Emission Calculations

Number of Wells	9	wells
Wellhead emissions	0.0873	ROC (lb/well-day)
FHC from Pumps	0.0351	ROC (lb/well-day)
FHC from Compressors	0.6111	ROC (lb/well-day)
Total:	0.7335	ROC (lb/well-day)

Sumps, Uncovered Wastewater Tanks, and Well Cellars

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

Unit Type/Emissions Factor

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

Surface Area and Type (emissions in lbs/day)

Description/Name	Number	Area (ft^2)	Primary	Secondary	Tertiary
Well Cellars[(a)]	2	72	2.03		
				0.00	
					0.00
			2.03	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%

Surface Area and Type (emissions in lbs/day)

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

Covered Wastewater Tanks Equipped with Vapor Recovery

Efficiency Factor: 95%

Surface Area and Type (emissions in lbs/day)

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

Oil/Water Separators

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

Emissions Factor: 560 (lb ROC/MM Gal)

Type (emissions in lbs/day)

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

10.3 Fee Calculations

FEE STATEMENT

PT-70/Reeval No. 09029 - R5
FID: 03319 Hartnell Lease / SSID: 02667

Santa Barbara County
Air Pollution Control District

Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
002960	Oil and Gas Wellheads	A1.a	1.000	58.66	Per equipment	No	9	1.000	527.94	0.00	0.00	527.94
002959	Valves & Fittings	A1.a	1.000	58.66	Per equipment	No	1	1.000	58.66	0.00	0.00	58.66
	Device Fee Sub-Totals =								**$586.60**	**$0.00**	**$0.00**	
	Device Fee Total =											**$586.60**

Permit Fee

Fee Based on Devices **586.60**

Fee Statement Grand Total = $586

Notes:

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

10.4 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 9029 – HARTNELL Lease						
lb/day		14.13				
tons/year		2.58				

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 9029 – Hartnell Lease						
lb/day		14.13				
tons/year		2.58				

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

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 9029 – Hartnell Lease						
lb/day		2.04				
tons/year		0.38				

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

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 9029 – Hartnell Lease						
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

Table 5
Facility Exempt Emissions (FXMT)

	NO_X	ROC	CO	SO_X	TSP	PM_{10}
PTO 9029 – Hartnell Lease						
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

10.5 Equipment List

Hartnell Lease

PT-70/Reeval 09029 R5 / FID: 03319 Hartnell Lease / SSID: 02667

A PERMITTED EQUIPMENT

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

1.1 Oil and Gas Wellheads

Device ID #	**002960**	***Device Name***	**Oil and Gas Wellheads**
Rated Heat Input		*Physical Size*	9.00 Total Wells
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Two wells are equipped with well cellars.		

1.2 Well Cellars

Device ID #	**002961**	***Device Name***	**Well Cellars**
Rated Heat Input		*Physical Size*	85.00 Square Feet Cellar Area
Manufacturer		*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description	Two cellars approximately 6' by 6'; one cellar 4' diameter.		

1.3 Valves & Fittings

Device ID #	**002959**	***Device Name***	**Valves & Fittings**
Rated Heat Input		*Physical Size*	9.00 Active Wells
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.		

Permitted Wells Table

Attachment 10.6 Permitted Wells

Operator Name	Field Name	Lease	Well Number	API	Well Status	Well Type	S	T	R	NEI
Breitburn Energy Co. LP	Orcutt	Hartnell	2	08302190	Idle	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	6	08302193	Idle	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	7	08302194	Idle	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	8	08302195	Active	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	9	08302196	Idle	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	10	08302197	Idle	OG	22	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	14	08320623	Active	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	15	08320765	Idle	OG	23	9N	34W	No
Breitburn Energy Co. LP	Orcutt	Hartnell	17	08320682	Idle	OG	22	9N	34W	No

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