



**FINAL**

**PERMIT TO OPERATE 8039-R7  
and  
PART 70 RENEWAL OPERATING PERMIT 8039**

**BREITBURN ENERGY COMPANY LP (BREITBURN)  
ORCUTT HILL STATIONARY SOURCE  
ORCUTT HILL INTERNAL COMBUSTION ENGINES**

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

**OPERATOR**

**BreitBurn Energy Company LP**

**OWNERSHIP**

**BreitBurn Energy Company LP**

**Santa Barbara County  
Air Pollution Control District**

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

**June 2, 2009**



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## **ABBREVIATIONS/ACRONYMS**

AP-42	USEPA's <i>Compilation of Emission Factors</i>
APCD	Santa Barbara County Air Pollution Control District
API	American Petroleum Institute
ASTM	American Society for Testing Materials
BACT	Best Available Control Technology
bpd	barrels per day (1 barrel = 42 gallons)
CAM	compliance assurance monitoring
CEMS	continuous emissions monitoring
dscf	dry standard cubic foot
EU	emission unit
°F	degree Fahrenheit
gal	gallon
gr	grain
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H <sub>2</sub> S	hydrogen sulfide
I&M	inspection & maintenance
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
LACT	Lease Automatic Custody Transfer
LPG	liquid petroleum gas
M	thousand
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NEI	net emissions increase
NG	natural gas
NSPS	New Source Performance Standards
O <sub>2</sub>	oxygen
OCS	outer continental shelf
ppm (vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
RVP	Reid vapor pressure
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC	Total hydrocarbons
tpy, TPY	tons per year
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VRS	vapor recovery system



## 1.0 Introduction

### 1.1 Purpose

General: The Santa Barbara County Air Pollution Control District (APCD) is responsible for implementing all applicable federal, state and local air pollution requirements which affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the APCD's Rules and Regulations. This is a combined permitting action that covers both the renewal of the Federal Part 70 permit (*Part 70 Operating Permit 8039*) as well as the reevaluation of the State Operating Permit (*Permit to Operate 8039*).

Santa Barbara County has been classified as non attainment for the state eight-hour ozone standard as well as the state 24-hour and annual PM<sub>10</sub> ambient air quality standards.

Part 70 Permitting. The initial Part 70 permit for the internal combustion engines 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 Orcutt Hill internal combustion engines are a part of the BreitBurn Orcutt Hill Stationary Source, which is a major source for VOC<sup>1</sup>, NO<sub>x</sub> and CO. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the APCD, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable. Conditions listed in Section 9.D are "APCD-only" enforceable.

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

### 1.2 Facility Overview

1.2.1 General Overview: The Orcutt Hill internal combustion engines are located on various leases on the stationary source which is approximately 2.5 miles south of the city of Orcutt. The engines were previously owned and operated for many years by Unocal. The following transfers of ownership/operator have since taken place:

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

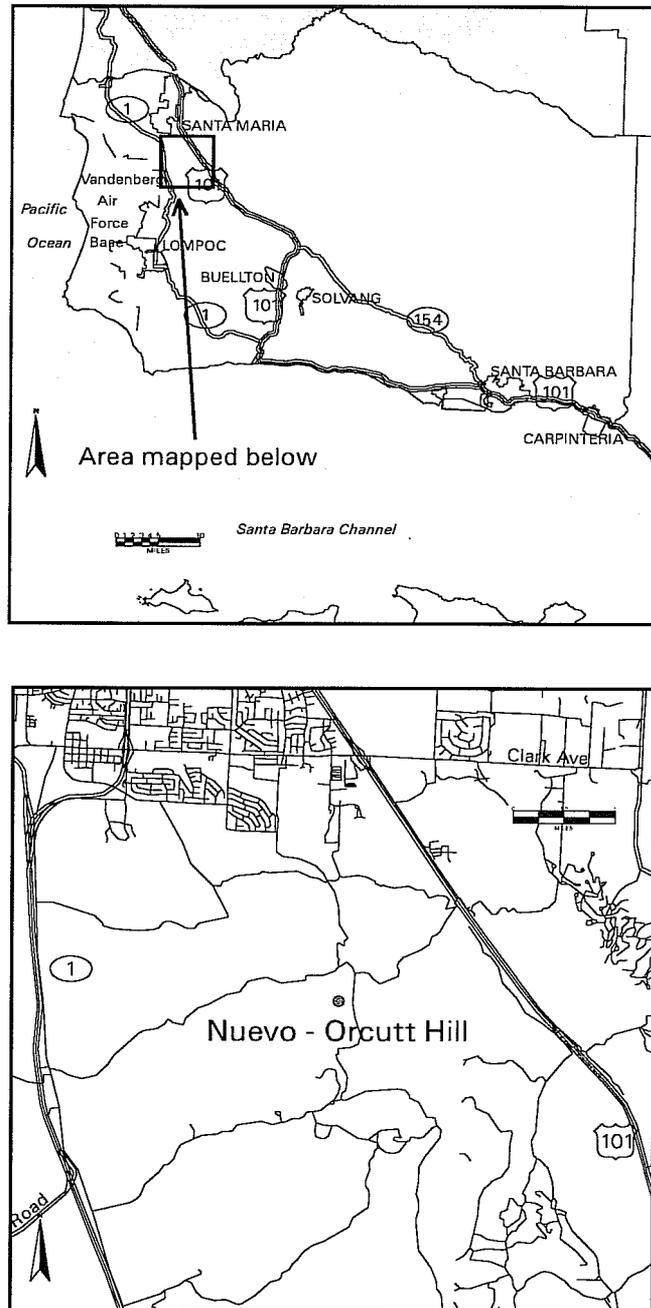
<b>Date of Transfer</b>	<b>New Owner</b>	<b>New Operator</b>
April 9, 1996	Nuevo Energy Company	Torch Operating Company
February 27, 2001	Nuevo Energy Company	Nuevo Energy Company
September 30, 2003	ERG Operating Company	ERG Operating Company
November 5, 2004	BreitBurn Energy	BreitBurn Energy

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

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

# BREITBURN - ORCUTT HILL STATIONARY SOURCE Stationary Source



**Figure 1.1 Location Map for the Orcutt Hill Internal Combustion Engines**

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

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

The Orcutt Hill internal combustion engines consist of the following one hundred twenty-seven engines (127):

- Fifty-six (56) unmodified, rich-burn, non-cyclic internal combustion engines;
- Two (2) limited use (<200-hours/year), unmodified, rich-burn, non-cyclic internal combustion engines;
- Sixty-seven (67) derated, rich-burn, non-cyclic internal combustion engines;
- One (1) limited use (<200-hours/year), unmodified, lean-burn, non-cyclic internal combustion engine;
- One (1) controlled limited use (<200 hour/year), rich-burn, non-cyclic internal combustion engine.

Internal combustion engines fired on field gas are located at various locations throughout the stationary source. These engines are used to drive pumping units, pumps, compressors and other oil and gas production equipment. All of the engines are fired on field natural gas. Oil well reciprocating pumping units may be designated cyclic or non-cyclic engines per APCD Rule 333.

1.2.2 Facility New Source Review Overview: Most of the Orcutt Hill internal combustion engines were in place and operating before a permit to operate was required. Therefore, much of the equipment was not subject to New Source Review requirements and was issued a Permit to Operate without an Authority to Construct. Table 1.1 provides a summary of the New Source Review history of the Orcutt Hill internal combustion engines.

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

<b>Permit Number</b>	<b>Issuance Date</b>	<b>Permitted Modification</b>
ATC 8955	06/03/93	Installation of a modified fuel pressure regulator to lean-out the fuel/air ratio on the Fox Lease water injection pump.
ATC 9052	06/03/93	Controlled 17 engines not subject to Rule 333 to provide emission reductions equivalent to what would be achieved by controlling a large compressor at the Battles Gas Plant. Permit canceled in January 1997 after the Battles Gas Plant was dismantled. The emission controls have been removed from the 17 engines.
ATC 9119	03/03/94	Installation of an intake air/water injection system and retarded timing on a Clark/RA-4 compressor at the Orcutt Hill Compressor Plant.
ATC 9386	03/20/95	Authorized temporary removal of orifice plates and temporary installation and testing of AST fuel/air injection devices. ATC canceled 09/30/96.
ATC/PTO 10837	08/13/02	Application was made to remove Condition 9.C.3.c.(ii) of PTO 8039-R4 that required supplemental source testing. Modification included in this permit.
ATC/PTO 10840	08/13/02	Permit limits the use of ICE ID# 004434, the Clark compressor, to less than 200-hours/year.
ATC/PTO 10840-01	10/08/02	Modification to AP 10840 and PTO 8039-R5 to add/revise DOI/ERC conditions
ATC 11372	03/04/05	Reduction in hours for Waukesha 2425 at Fox Injection Well to less than 200 hr/yr and installation of electric motor to generate ERCs; also addition of new 23 hp LeRoi (ID# 107312) engine
ATC/PTO 11372-01	03/20/06	Modify LeRoi engine operating hours by reducing operating hours to 1000 hr/yr
PTO Mod 8039-04	06/01/09	Remove eleven engines destroyed or relocated out of state from permit to qualify for ERCs.
PTO Mod 8039-05	05/13/09	Remove seventeen engines from permit to qualify for ERCs. The engines were destroyed or relocated out of state. Supersedes PTO Mod 8039-04. See DOI 0046.

### **1.3 Emission Sources**

The emissions from this facility are entirely due to combustion of field natural gas in 127 internal combustion engines. Section 4 of the permit provides the APCD's engineering analysis of these emission sources. Section 5 of the permit describes each engine and the allowable emissions from each engine.

## **1.4 Emission Control Overview**

Air quality emission controls are utilized on one of the Orcutt Hill internal combustion engines. A modified fuel pressure regulator is used to lean-out the fuel/air ratio on a water injection pump (ID# 004435, the Waukesha 2475).

## **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 NO<sub>x</sub> and ROC offsets will need to be provided for the entire stationary source NEI.

Electrification of two Orcutt Hill internal combustion engines has generated Emission Reduction Credits:

- 1) Electrification of a Clark RA-4 gas compressor. This project generated NO<sub>x</sub>, ROC, and SO<sub>x</sub> ERCs and is documented in Decision of Issuance (DOI) 0031 issued October 7, 2002.
- 2) Electrification of the Fox Lease water injection pump. This project generated NO<sub>x</sub>, ROC, and SO<sub>x</sub> ERCs and is documented in DOI 0038 issued March 23, 2005.
- 3) Electrification of 17 water injection pump engines at the Pinal and Newlove Leases. The operator has applied for PTO Mod 8039-04 to remove seventeen engines from permit. These engines have been destroyed or relocated to another Breitburn facility in Michigan. This permit modification has been included in this reevaluation. DOI 0046 was issued 12/18/2007, and issuance of the ERC certificate for NO<sub>x</sub>, ROC, and CO is pending.

## **1.6 Part 70 Operating Permit Overview**

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

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

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

1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request

from the source and its detailed review by the APCD. Permit shields cannot be indiscriminately granted with respect to all federal requirements. The permittee has not made a request for a permit shield.

- 1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. The permittee made no request for permitted alternative operating scenarios.
- 1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application; and, be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A “responsible official” of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (*see Section 1.6.9 below*)
- 1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.
- 1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. (*see Sections 4.6 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 Unmodified IC Engines – Fifty-six (56) of the ICEs (See Table 5.1-1 for specific ID#s) are rated below 50 hp and are not subject to Rule 333 emission limits.
- 2.1.2 Limited Use IC Engines – Three (3) of the ICEs (ID#s 004306, 004305, and 004434) are rated above 50 hp and are not subject to Rule 333 emission limits because they are operated less than 200-hours/year.
- 2.1.3 Derated IC Engines – Sixty-seven (67) of the ICEs (See Table 5.1-1 for specific ID#s) are equipped with orifice plates to derate each engine to below 50 hp. Derating is not considered to be an emission control. These engines are not subject to Rule 333 emission limits.

2.1.4 Controlled Limited Use IC Engines – One (1) of the ICEs (ID# 004435) is a controlled engine rated above 50 hp operated less than 200 hours per year. Although it is not directly subject to Rule 333 emissions standards, the emission limits correspond to those of Rule 333.

## **2.2 Support Systems**

There are no additional support systems for the Orcutt Hill internal combustion engines.

## **2.3 Maintenance/Degreasing Activities**

2.3.1 Paints and Coatings: The use of paints and coatings at the BreitBurn Orcutt Hill Stationary Source are discussed in the permits for individual Orcutt Hill leases and for the compressor plant.

2.3.2 Solvent Usage: The use of solvents at the BreitBurn Orcutt Hill Stationary Source is discussed in the permits for individual Orcutt Hill leases and for the compressor plant.

## **2.4 Other Processes**

2.4.1 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 Table 5.1-1 for a complete listing of all permitted equipment.

## **3.0 Regulatory Review**

This section identifies the federal, state and local rules and regulations applicable to the Orcutt Hill internal combustion engines.

### **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<sup>o</sup> F or greater; or c) use materials with a volatile organic compound content of two-percent or less by weight as determined by EPA Method 24.

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

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

- **Section F.1.c Internal Combustion Engines:** Engines used to propel vehicles, as defined in Section 670 of the California Vehicle Code, but not including any engine mounted on such vehicles that would otherwise require a permit under the provisions of APCD Rules and Regulations.
- **Section F.2 Portable Internal Combustion Engines:** Portable ICEs eligible for statewide registration pursuant to Title 13, Section 2450 *et seq.*, and not integral to the stationary source operations.

The following Rule exemptions have been approved by the APCD:



APCD Rule 202 (Specific Exemptions to Rule 201): One gas-fired firewater pump at the Orcutt Hill Compressor plant is exempt per Rule 202.F. The engine is rated at 0.50 MMBtu/hour and is operated less than 200-hours/year.



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



APCD Rule 333 (Control Of Emissions From Reciprocating Internal Combustion Engines): The permittee has claimed the following exemptions from this rule:

- Engines that are exempt from permit under the provisions of Rule 202.
- Any engine that has a total aggregated operational period less than 200 hours per calendar year is exempt from the requirements of Rule 333, with the exception of the engine identification requirement in Section D.1, the elapsed operating time meter requirement in Section D.2, the recordkeeping provisions in Section J.3, and the compliance schedules for these provisions specified in Section K.

### **3.2 Compliance with Applicable Federal Rules and Regulations**

3.2.1 40 CFR Parts 51/52 {New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)}: The Orcutt Hill internal combustion engines were installed and permitted prior to the applicability of these regulations. All modifications are subject to the APCD's New Source Review regulation. Compliance with the APCD 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 any NSPS. See permits of the individual Orcutt Hill leases and the compressor plant for NSPS applicability of those facilities.

- 3.2.3 40 CFR Part 61 {*NESHAP*}: This facility is not currently subject to the provisions of this Subpart.
- 3.2.4 40 CFR Part 63 {*MACT*}: On June 17, 1999, EPA promulgated Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. This facility currently is not subject to the provisions of this Subpart. The IC engines listed in this permit are located at various locations throughout the Orcutt Hill stationary source. Each lease qualifies for an exemption from Subpart HH, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage. Exemptions are documented for each facility (lease). The reciprocating internal combustion engines at this each facility are exempt from Subpart ZZZZ because none are rated more than 500 break horsepower.
- 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. This is because the engine (ID# 004435, the Waukesha 2475) with a pre-control emission potential greater than 50-tons/year is controlled through the use of a fuel/air controller. This method does not meet the definition of a “control device” in the CAM rule.
- 3.2.6 40 CFR Part 70 {*Operating Permits*}: This Subpart is applicable to the Orcutt Hill internal combustion engines. Table 3.1 lists the federally-enforceable APCD promulgated rules that are “generic” and apply to the Orcutt Hill internal combustion engines. Table 3.2 lists the federally-enforceable APCD promulgated rules that are “unit-specific” that apply to the Orcutt Hill internal combustion engines. These tables are based on data available from the APCD’s administrative files and from the permittee’s Part 70 Operating Permit renewal application filed on October 31, 2008. Table 3.4 includes the adoption dates of these rules.

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

### **3.3 Compliance with Applicable State Rules and Regulations**

- 3.3.1 Division 26. Air Resources {*California Health & Safety Code*}: The administrative provisions of the Health & Safety Code apply to this facility and will be enforced by the APCD. These provisions are APCD-enforceable only.
- 3.3.2 California Administrative Code Title 17: These sections specify the standards by which abrasive blasting activities are governed throughout the State. All abrasive blasting activities at the Orcutt Hill Internal Combustion Engines are required to conform to these standards. Compliance will be assessed through onsite inspections. These standards are APCD-enforceable only. However, CAC Title 17 does not preempt enforcement of any SIP-approved rule that may be applicable to abrasive blasting activities.

### **3.4 Compliance with Applicable Local Rules and Regulations**

- 3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable APCD promulgated rules that apply to the Orcutt Hill internal combustion engines.

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 August 30, 2007. The inspector reported that the permitted equipment 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 10.2 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 has historically operated in compliance with this rule. However, on October 21, 2005, NOV 8396 was issued for violation of APCD Rule 301. See Table 3.0-1.

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. The APCD reviewed this facility for applicability, and since there are no flares or diesel fired engines at this source, this permit is not conditioned to require visible emissions inspections.

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

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

Rule 309 - Specific Contaminants: Under Section "A", no source may discharge sulfur compounds and combustion contaminants (particulate matter) in excess of 0.2 percent as SO<sub>2</sub> (by volume) and 0.3 gr/scf (at 12% CO<sub>2</sub>) respectively. It is highly unlikely that gas fired engines will exceed these standards.

Rule 310 - Odorous Organic Compounds: This rule prohibits the discharge of H<sub>2</sub>S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour. No measured data exists to confirm compliance with this rule.

Rule 311 - Sulfur Content of Fuels: This rule limits the sulfur content of fuels combusted in the Orcutt Hill internal combustion engines to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H<sub>2</sub>S) {or 796 ppmvd} for gaseous fuels. All piston IC engines on this stationary source 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 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.

Rule 333 - Control of Emissions from Reciprocating Internal Combustion Engines: This rule applies to all engines with a rated brake horsepower of 50 or greater that are fueled by liquid or gaseous fuels. However, per Section B.1.b any engine exempt from the requirement to obtain a permit under Rule 202 is also exempt from this rule. Four engines on the BreitBurn Orcutt Hill Stationary Source are rated higher than 50 hp. Three of these engines (ID#s 004306, 004305, and 004434) operate less than 200-hours/year and qualify for the exemption in Rule 333.B.2. While the fourth engine, (ID# 004435) the Waukesha 2475 engine, is not directly subject to Rule 333 emission limitations since it is limited to operations less than 200 hours per year by permitting action ATC 11372, the permittee chose to operate the engine in compliance with Rule 333 emission limits to avoid an NEI increase. Thus the engine controls remain in place. The permit contains periodic emission and control monitoring if the engine operates more than

100 hours in any six-month period.

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

Rule 505 - Breakdown Conditions: This rule describes the procedures that the permittee must follow when a breakdown condition occurs to any emissions unit associated with the Orcutt Hill internal combustion engines. 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 recent compliance history for this facility and was obtained from documentation contained in the APCD's administrative file.

- 3.5.1 Variances: BreitBurn Energy filed a petition for an Emergency Variances on October 12, 2007. Variance 35-07-E was granted on October 15, 2007. This variance allowed the operation of a limited use 175 bhp engine (ID# 4305) beyond the 200 hrs/year limit. This use occurred while the electric motor that normally operated the Newlove injection transfer pump was being repaired. The variance was limited to 30 calendar days.
- 3.5.2 Compliance Actions: Table 3.0-1 below lists the Notices of Violation (NOVs) and Notices to Comply (NTCs) issued by the APCD to this facility:

**Table 3.0-1  
Compliance Actions**

<b>VIOLATION TYPE</b>	<b>NUMBER</b>	<b>ISSUE DATE</b>	<b>DESCRIPTION OF VIOLATION</b>
NTC	5449	12/18/1996	Failure to permanently affix an identification plate or tag to two ICEs.
NTC	6871	07/11/2000	Notice to comply
NOV	6870	07/11/2000	Exceeding permitted emission limits
NOV	6884	02/07/2001	Exceeding hourly heat input and mass emission limitations for ICE's

<b>VIOLATION TYPE</b>	<b>NUMBER</b>	<b>ISSUE DATE</b>	<b>DESCRIPTION OF VIOLATION</b>
NOV	6893	06/05/2001	Exceeding hourly heat input and mass emission limitations for ICE's
NOV	7316	03/22/2002	Constructing and operating a Derated Rich-Burn Non-Cyclic ICE (Rental#1) without obtaining prior approvals. Also Rule 206
NTC	8173	11/22/2004	An infraction of permit requirements occurred: Third Quarter 2004 - a quarterly emission inspection with a portable "NOx Box" on the above referenced engine was not conducted as required by Permit Condition 9.C.3 (a). Testing was done on October 19, 2004 for the Fourth Quarter 2004 and compliance was achieved. The infraction was documented by APCD staff during review of a Deviation Report submitted to APCD on November 16, 2004. The probable cause of the subject deviation was operational oversight and was discovered November 10, 2004 following the November 5, 2004 APCD Transfer of Owner/Operator Authorization of subject equipment from ERG Operating Company to BreitBurn Energy Company LP.
NOV	8396	11/04/2005	Violations of District Rules 206 and 301 by erecting equipment, the use of which, without resulting in the total release of air contaminants to the atmosphere, would conceal 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 Rules and Regulations of the County of Santa Barbara Air Pollution Control District
NOV	8770	12/12/2006	Exceeding maximum heat input (MMBtu/hour) for internal combustion engines listed in the above permit, as restricted by the values listed in the "Use per Hour" column of Table 5.1-1.

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

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

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 101</u> : Compliance by Existing Installations	All emission units	Emission of pollutants
<u>RULE 102</u> : Definitions	All emission units	Emission of pollutants
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 202</u> : Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function
<u>RULE 203</u> : Transfer	All emission units	Change of ownership
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment of modification to existing equipment.
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules
<u>RULE 207</u> : Denial of Applications	All emission units	Applicability of relevant Rules
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.
<u>RULE 212</u> : Emission Statements	All emission units	Administrative
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission
<u>RULE 302</u> : Visible Emissions	All emission units	Particulate matter emissions
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.
<u>RULE 304</u> : Particulate matter – Northern Zone	Each PM Source	Emission of PM in effluent gas
<u>RULE 309</u> : Specific Contaminants	All emission units	Combustion contaminant emission
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur
<u>RULE 317</u> : Organic Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 321</u> : Solvent Cleaning Operations	Emission units using solvents	Solvent used in process operations.
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Emission units using solvents	Solvent used in process operations.
<u>RULE 323</u> : Architectural Coatings	Paints used in maintenance and surface coating activities	Application of architectural coatings.

<b>Generic Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Emission units using solvents	Solvent used in process operations.
<u>RULE 353</u> : Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.
<u>RULE 505.A, B1, D</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	BreitBurn Orcutt Hill is a major source.
<u>REGULATION VIII</u> : New Source Review	All emission units	Addition of new equipment or modification to existing equipment. Applications to generate ERC Certificates.
<u>REGULATION XIII (RULES 1301-1305)</u> : Part 70 Operating Permits	All emission units	BreitBurn Orcutt Hill is a major source.

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

<b>Unit-Specific Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 333</u> : Control of Emissions from Reciprocating Internal Combustion Engines	IC engines ID#s 004306, 004305, 004434 and 004435.	Internal combustion engines with a rated brake horsepower of 50 or greater.

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

<b>Requirement</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>
<u>RULE 210</u> : Fees	All emission units	Administrative
<u>RULE 310</u> : Odorous Org. Sulfides	All emission units	Emission of organic sulfides
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative
<u>RULE 505.B2, B3, C, E, F, G</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.
<u>RULES 506-519</u> : Variance Rules	All emission units	Administrative

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

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
Rule 101	Compliance by Existing Installations: Conflicts	June 1981
Rule 102	Definitions	May 20, 1999
Rule 103	Severability	October 23, 1978
Rule 201	Permits Required	April 17, 1997
Rule 202	Exemptions to Rule 201	April 17, 1997
Rule 203	Transfer	April 17, 1997
Rule 204	Applications	April 17, 1997
Rule 205	Standards for Granting Permits	April 17, 1997
Rule 206	Conditional Approval of Authority to Construct or Permit to Operate	October 15, 1991
Rule 208	Action on Applications - Time Limits	April 17, 1997
Rule 212	Emission Statements	October 20, 1992
Rule 301	Circumvention	October 23, 1978
Rule 302	Visible Emissions	June 1981
Rule 303	Nuisance	October 23, 1978
Rule 304	Particulate Matter – Northern Zone	October 23, 1978
Rule 309	Specific Contaminants	October 23, 1978
Rule 310	Odorous Organic Sulfides	October 23, 1978
Rule 311	Sulfur Content of Fuels	October 23, 1978
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 333	Control of Emissions from Reciprocating Internal Combustion Engines	April 17, 1997

<b>Rule No.</b>	<b>Rule Name</b>	<b>Adoption Date</b>
Rule 353	Adhesives and Sealants	August 19, 1999
Rule 505	Breakdown Conditions (Section A, B1 and D)	October 23, 1978
Rule 603	Emergency Episode Plans	June 15, 1981
Rule 801	New Source Review	April 17, 1997
Rule 802	Nonattainment Review	April 17, 1997
Rule 803	Prevention of Significant Deterioration	April 17, 1997
Rule 804	Emission Offsets	April 17, 1997
Rule 805	Air Quality Impact and Modeling	April 17, 1997
Rule 806	Emission Reduction Credits	April 17, 1997
Rule 901	New Source Performance Standards (NSPS)	May 16, 1996
Rule 1001	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	October 23, 1993
Rule 1301	General Information	January 18, 2001
Rule 1302	Permit Application	November 9, 1993
Rule 1303	Permits	January 18, 2001
Rule 1304	Issuance, Renewal, Modification and Reopening	January 18, 2001
Rule 1305	Enforcement	November 9, 1993

## **4.0 Engineering Analysis**

### **4.1 General**

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

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

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

## 4.2 Piston Internal Combustion Engines

4.2.1 The equipment included in this permit consists of one hundred twenty-seven (127) field-gas-fired, piston IC engines used to drive pumping units, pumps, compressors, and other equipment used in oil production operations. The breakdown of the engines is as follows:

- \* Fifty-six (56) unmodified, rich-burn, non-cyclic internal combustion engines;
- \* Two (2) limited use (<200-hours/year), unmodified, rich-burn, non-cyclic internal combustion engines;
- \* Sixty-seven (67) derated, rich-burn, non-cyclic internal combustion engines;
- \* One (1) limited use (<200-hours/year), unmodified, lean-burn, non-cyclic internal combustion engine;
- \* One (1) controlled limited use (<200 hour/year), rich-burn, non-cyclic internal combustion engine.

One of the engines is controlled. Engine ID# 004435 is a rich-burn engine and utilizes a modified fuel pressure regulator to lean-out the fuel/air ratio.

### a. Emission Calculations

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

where:

ER = Emission rate (lb/period)

EF = Pollutant specific emission factor (lb/MMBtu)

SCFPP = gas flow rate per operating period (scf/period)

HHV = gas higher heating values (1,350 Btu/scf)

### Emission Factors (EF) for Uncontrolled Rich Burn ICEs (All ID#s Except 004434 and 004435).

Pollutant	Emission Factor	Units	Notes
NO <sub>x</sub>	1.905	lb/MMBtu	1.a
ROC	0.103	lb/MMBtu	1.a
CO	1.600	lb/MMBtu	1.a
PM	0.010	lb/MMBtu	1.a
PM <sub>10</sub>	0.010	lb/MMBtu	1.a
SO <sub>x</sub> as SO <sub>2</sub>	0.100 = (0.169)(ppmv) / HHV	lb/MMBtu	2

### Emission Factors (EF) for Lean Burn ICE ID# 004434

Pollutant	Emission Factor	Units	Notes
NO <sub>x</sub>	1.905	lb/MMBtu	1.a
ROC	0.103	lb/MMBtu	1.a
CO	0.400	lb/MMBtu	1.a
PM	0.046	lb/MMBtu	1.a
PM <sub>10</sub>	0.046	lb/MMBtu	1.a
SO <sub>x</sub> as SO <sub>2</sub>	0.100 = (0.169)(ppmv) / HHV	lb/MMBtu	2

**Controlled Emission Factors (EF) for Rich Burn ICE ID# 004435**

<b>Pollutant</b>	<b>Emission Factor</b>	<b>Units</b>	<b>Notes</b>
NO <sub>x</sub>	0.190	lb/MMBtu	1.b
ROC	0.830	lb/MMBtu	1.b
CO	10.10	lb/MMBtu	1.b
PM	0.010	lb/MMBtu	1.b
PM <sub>10</sub>	0.010	lb/MMBtu	1.b
SO <sub>x</sub> as SO <sub>2</sub>	0.100 = (0.169)(ppmv) / HHV	lb/MMBtu	2

Notes for tables above:

- 1.a. SBCAPCD Permit Guidance Document for Reciprocating ICEs dated January 27, 1998, page 6, Table 3.6-1, which values are from AP-42 and APCD Hearing Board dictated gas-fired engine EFs.
- 1.b. SBCAPCD Permit Guidance Document for Reciprocating ICEs dated January 27, 1998, page 7, Table 3.6-3, which values are from AP-42 gas-fired engine EFs based on Rule 333.D.2 lean-burn limits, i.e. 125 ppmv NO<sub>x</sub>, 4,500 ppmv CO, and 750 ppmv ROC at 15% excess oxygen.
2. Based on mass balance of sulfur in gaseous fuel and limit of 796 ppmv S.

**4.3 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).

**4.4 CEMS/Process Monitoring/CAM**

4.4.1 CEMS: There are no CEMS at this facility.

4.4.2 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, 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. At a minimum the following process monitors will be required to be in good working order:

- Master fuel meters (totalizers) are used to determine total fuel (scf) delivered to the internal combustion engines. Fuel is then apportioned to individual engines based on the operational parameters for each engine.
- Non-resettable engine-use hour meters for any engine that the permittee claims is exempt from Rule 333 standards by operating less than 200-hours/year.

4.4.3 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 for any

pollutant is subject to CAM provisions. It was determined that CAM was not applicable to any equipment units at this facility.

#### **4.5 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.

Normally, for Rule 333 compliance, biennial source testing is required. Because the operating hours of the Clark Compressor (ID# 004435) are limited to less than 200 hours per year, Rule 333 emission standards and monitoring do not directly apply. For this controlled engine, the permit has been conditioned to verify compliance with Rule 333 equivalent NO<sub>x</sub> ppm limitations through testing with a portable NO<sub>x</sub> analyzer and checks of the fuel- air controller. In general, process monitors used to ensure compliance are: a) Equipment recording gaseous fuel use; b) IC engine process parameter recorders (e.g., A/F ratio controller recorder); and c) IC engine operation logs required under APCD Rule 333.

At a minimum, the permittee shall sample, monitor, or analyze as applicable the process streams below on a periodic basis, pursuant to APCD Rules and standards:

- ➔ Fuel (produced) Gas: Analysis for gross heating value (HHV) and fuel sulfur content, *annually*.
- ➔ Fuel (produced) Gas: Analysis for H<sub>2</sub>S by Draeger tube and fuel sulfur content, *quarterly*.

All sampling and analyses are required to be performed according to APCD approved procedures and methodologies. Typically, the appropriate ASTM methods are acceptable. It is important that all sampling and analysis be traceable by chain of custody procedures.

#### **4.6 Part 70 Engineering Review: Hazardous Air Pollutant Emissions**

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

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

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

## 5.0 Emissions

### 5.1 General

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

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

### 5.2 Permitted Emission Limits - Emission Units

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

- ⇒ Nitrogen Oxides (NO<sub>x</sub>)<sup>3</sup>
- ⇒ Reactive Organic Compounds (ROC)
- ⇒ Carbon Monoxide (CO)
- ⇒ Sulfur Oxides (SO<sub>x</sub>)<sup>4</sup>
- ⇒ Particulate Matter (PM)<sup>5</sup>
- ⇒ Particulate Matter smaller than 10 microns (PM<sub>10</sub>)

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

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

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

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

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 5.4 lists the federal Part 70 potential to emit.

**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 5.5-1. Potential HAP emissions, based on the worst-case scenario, are shown in Table 5.5-2.

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

There are no exempt emissions units associated with the Orcutt Hill internal combustion engines.

**5.7 Net Emissions Increase Calculation**

The net emissions increase for the Orcutt Hill Internal Combustion Engines since November 15, 1990 (the day the Federal Clean Air Act Amendments were adopted in 1990) is reported in Attachment 10.3-1.

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 enforceable NEI scenario)

Term	NOx		ROC		CO		SOx		PM		PM10	
	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
SSN NEI-90	66.59	10.35	59.25	8.65	185.26	17.70	19.28	3.42	30.37	5.54	30.37	5.54
Notes:	(1) Resultant SSN NEI-90 from above Section 1 thru D data (2) Totals only apply to permit 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 12054.											

Table below summarizes Stationary Source NEI-90 (adjusted)

Term	NOx		ROC		CO		SOx		PM		PM10	
	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
SSN NEI-90	33.59	4.33	32.54	4.42	48.26	7.30	8.17	1.39	12.37	2.25	12.37	2.25
Notes:	(1) This Stationary Source NEI (adjusted) is applicable to all stationary source offset determinations until such time Phase 2 construction begins under ATC 12054. See NEI discussion in Engineering Evaluation in PTO 32373 for more details.											

**Table 5.1-1  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Operating Equipment Description**

Equipment Category	APCD Device Number	Emission Unit	Engine Use	BreitBurn Unique ID #	Fuel	% Sulfur By Volume	Max BHP	BHP Limited By	BSFC BTU/bhp-hr	Operating Limitations			Year		
										Hourly Use (MMBTU)	Annual Load	Hours		Day	Qtr
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>															
	004416	M & M (HEB)	Out of Service	7439	FNG	0.0796	46.0	Nameplate	10,500	0.48	4,231	1	24	2,190	8,760
	004390	M & M (605)	Well Pump	8488	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004388	M & M (605)	Well Pump	8767	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004430	M & M (605)	Out of Service	8785	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004322	M & M (605)	Out of Service	8826	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004411	M & M (283)	Out of Service	8864	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004399	M & M (605)	Well Pump	8874	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004376	M & M (283)	Well Pump	8967	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004403	M & M (283)	Newlove Tks VR	8970	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	005865	M & M (283)	Well Pump	8971	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004393	M & M (403)	Out of Service	8987	FNG	0.0796	32.0	Nameplate	11,000	0.35	3,084	1	24	2,190	8,760
	006473	M & M (403)	Well Pump	8996	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004397	M & M (283)	Well Pump	9228	FNG	0.0796	32.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004417	M & M (403)	Out of Service	9232	FNG	0.0796	32.0	Nameplate	11,000	0.35	3,084	1	24	2,190	8,760
	004421	M & M (605)	Well Pump	9268	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004429	M & M (605)	Out of Service	9277	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004383	M & M (283)	Well Pump	9300	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004364	M & M (283)	Well Pump	9534	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	101250	M & M (403)	Out of Service	9602	FNG	0.0796	32.0	Nameplate	11,000	0.35	3,084	1	24	2,190	8,760
	004365	M & M (283)	Well Pump	9603	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004404	Leroi (226)	Well Pump	9748	FNG	0.0796	23.0	Nameplate	9,100	0.21	1,833	1	24	2,190	8,760
	004377	M & M (283)	Well Pump	9904	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	101251	Leroi (226)	Out of Service	9994	FNG	0.0796	23.0	Nameplate	9,100	0.21	1,833	1	24	2,190	8,760
	101252	M & M (425)	Out of Service	10373	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	24	2,190	8,760
	004381	M & M (425)	Well Pump	10498	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	24	2,190	8,760
	004420	Leroi (226)	Well Pump	10757	FNG	0.0796	23.0	Nameplate	9,100	0.21	1,833	1	24	2,190	8,760
	004386	M & M (425)	Well Pump	10775	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	24	2,190	8,760
	004392	M & M (425)	Well Pump	10786	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	24	2,190	8,760
	004413	M & M (605)	Well Pump	10905	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004311	M & M (605)	Well Pump	10923	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004379	Leroi (226)	Inst Air Comp	10986	FNG	0.0796	23.0	Nameplate	9,100	0.21	1,833	1	24	2,190	8,760
	004419	M & M (283)	Well Pump	11105	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	101253	Leroi (226)	Out of Service	11285	FNG	0.0796	23.0	Nameplate	9,100	0.21	1,833	1	24	2,190	8,760
	004401	M & M (283)	Well Pump	11330	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	008779	M & M (605)	Well Pump	11386	FNG	0.0796	46.0	Nameplate	11,000	0.51	4,433	1	24	2,190	8,760
	004423	M & M (403)	Out of Service	11643	FNG	0.0796	32.0	Nameplate	11,000	0.35	3,084	1	24	2,190	8,760
	004418	M & M (425)	Well Pump	11609	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	24	2,190	8,760
	004408	M & M (283)	Out of Service	11792	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760
	004398	M & M (283)	Well Pump	11841	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	24	2,190	8,760

**Table 5.1-1  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Operating Equipment Description**

Equipment Category	APCD Device Number	Emission Unit	Engine Use	BreitBurn Unique ID #		Fuel	% Sulfur By Volume	Max BHP	BHP Limited By	BSFC BTU/bhp-hr	Operating Limitations			Max Load Schedule		Year
				Annual	Hourly						Use (MMBTU)	Annual	Hours	Day	Qtr	
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004384	M & M (283)	Well Pump	11842	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	1	24	2,190	8,760
	101254	M & M (425)	Out of Service	11858	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	1	24	2,190	8,760
	008996	M & M (425)	Well Pump	11863	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	1	24	2,190	8,760
	008780	M & M (605)	Well Pump	11889	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004385	International (153)	Well Pump	11891	FNG	0.0796	28.0	Nameplate	9,100	0.25	2,232	1	1	24	2,190	8,760
	004382	M & M (HEB)	Well Pump	11931	FNG	0.0796	48.0	Nameplate	10,500	0.48	4,231	1	1	24	2,190	8,760
	004380	M & M (425)	Well Pump	11971	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	1	24	2,190	8,760
	004396	M & M (605)	Well Pump	11959	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004412	M & M (605)	Well Pump	12004	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004378	International (153)	Port Air Comp	12023	FNG	0.0796	28.0	Nameplate	9,100	0.25	2,232	1	1	24	2,190	8,760
	008781	M & M (605)	Well Pump	12034	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004391	M & M (425)	Well Pump	12045	FNG	0.0796	39.0	Nameplate	10,500	0.41	3,587	1	1	24	2,190	8,760
	004432	M & M (HEB)	Well Pump	12088	FNG	0.0796	48.0	Nameplate	10,500	0.48	4,231	1	1	24	2,190	8,760
	004427	M & M (605)	Well Pump	12122	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004400	M & M (605)	Well Pump	12133	FNG	0.0796	48.0	Nameplate	11,000	0.51	4,433	1	1	24	2,190	8,760
	004425	M & M (283)	Well Pump	12166	FNG	0.0796	25.0	Nameplate	10,500	0.26	2,300	1	1	24	2,190	8,760
	107312	LeRoi	Jkt Wtr Fan	9270	FNG	0.0796	23.0	Nameplate	10,500	0.24	242	1	1	24	1,000	1,000
<b>Limited Use Rich-Burn Non-Cyclic Uncontrolled Internal Combustion Engines</b>																
	004306	M & M (600T)	Final Inj	12195	FNG	0.0796	175.0	Nameplate	8,150	1.43	285	1	1	24	200	200
	004305	M & M (600T)	Newlove Tran 2	12205	FNG	0.0796	175.0	Nameplate	8,150	1.43	285	1	1	24	200	200
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004317	Waukesha (140)	Out of Service	8226	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	004316	Waukesha (140)	Well Pump	8343	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	004359	Waukesha (145)	Well Pump	9553	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	101255	Waukesha (145)	Out of Service	9746	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	008183	Waukesha (817)	Well Pump	9749	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	101256	Waukesha (145)	Out of Service	9818	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	008184	Waukesha (145)	Well Pump	10215	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	005307	Waukesha (WAK)	Cal Coast Inj	10367	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	101257	Waukesha (WAK)	Out of Service	10370	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004307	Waukesha (WAK)	Well Pump	10939	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	008762	Waukesha (WAK)	1Cal Coast Inj	11010	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004314	Waukesha (WAK)	Out of Service	11025	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	008763	Waukesha (WAK)	Well Pump	11033	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004406	Waukesha (WAK)	Well Pump	11045	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004331	Waukesha (817)	Newlove Inj	11143	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760

**Table 5.1-1  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Operating Equipment Description**

Equipment Category	APCD Device Number	Emission Unit	Engine Use	BreitBurn Unique ID #	Fuel	% Sulfur By Volume	Max BHP	BHP Limited By	BSFC BTU/bhp-hr	Operating Limitations				Year		
										Hourly	Annual	Load	Hours			
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	008185	Waukesha (195)	Jkt Wtr Pump	11230	FNG	0.0796	41.8	Orifice Plate @ 1.65"	9,100	0.38	3,332	1	1	24	2,190	8,760
	005305	Waukesha (WAK)	Out of Service	11310	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	101258	Waukesha (140)	Out of Service	11441	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	004325	Waukesha (140)	Out of Service	11473	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	101259	Waukesha (145)	Out of Service	11478	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004338	Waukesha (145)	Well Pump	11480	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004336	Waukesha (145)	Well Pump	11484	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004387	Waukesha (145)	Well Pump	11489	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004368	Waukesha (145)	Well Pump	11495	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	008764	Waukesha (145)	Out of Service	11499	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004362	Waukesha (145)	Well Pump	11502	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004341	Waukesha (145)	Well Pump	11504	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004355	Waukesha (145)	Well Pump	11505	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004372	Waukesha (817)	Well Pump	11511	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	008782	Waukesha (145)	Well Pump	11512	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004342	Waukesha (145)	Well Pump	11513	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004364	Waukesha (145)	Well Pump	11521	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004351	M & M (800)	Well Pump	11523	FNG	0.0796	48.0	Orifice Plate @ 0.65"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004339	Waukesha (145)	Well Pump	11529	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004354	Waukesha (817)	Well Pump	11538	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004310	Waukesha (WAK)	Out of Service	11546	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004308	Waukesha (WAK)	Out of Service	11549	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004360	Waukesha (817)	Out of Service	11550	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	005310	Waukesha (WAK)	Well Pump	11558	FNG	0.0796	49.8	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	004312	Waukesha (145)	Well Pump	11591	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004402	Waukesha (145)	Cal Coast Inj	11615	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004319	Waukesha (140)	Out of Service	11627	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	005304	Waukesha (140)	Well Pump	11628	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	004344	M & M (800)	Well Pump	11667	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004343	Waukesha (145)	Well Pump	11695	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004358	M & M (800)	Well Pump	11697	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760

**Table 5.1-1  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Operating Equipment Description**

Equipment Category	APCD Device Number	Emission Unit	Engine Use	BreitBurn Unique ID #	Fuel	% Sulfur By Volume	Max BHP	BHP Limited By	BSFC BTU/lbhp-hr	Operating Limitations			Max Load Schedule			
										Hourly Use (MMBTU)	Annual Load	Hours		Day	Qtr	Year
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004348	M & M (800)	Well Pump	11898	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	008998	Waukesha (145)	Well Pump	11712	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004315	Waukesha (195)	Out of Service	11763	FNG	0.0796	41.8	Orifice Plate @ 1.65"	9,100	0.38	3,332	1	1	24	2,190	8,760
	008783	M & M (336)	Well Pump	11830	FNG	0.0796	46.3	Orifice Plate @ 1.30"	8,360	0.39	3,391	1	1	24	2,190	8,760
	004323	Waukesha (140)	Well Pump	11848	FNG	0.0796	48.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	101260	Waukesha (140)	Out of Service	11849	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	004320	Waukesha (140)	Well Pump	11927	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	101261	Waukesha (140)	Out of Service	11964	FNG	0.0796	49.5	Orifice Plate @ 0.98"	9,100	0.45	3,946	1	1	24	2,190	8,760
	005308	Waukesha (WAK)	Out of Service	11973	FNG	0.0796	48.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	008766	Waukesha (817)	Out of Service	11975	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	004324	Waukesha (145)	Well Pump	11983	FNG	0.0796	49.5	Orifice Plate @ 0.922"	10,000	0.50	4,336	1	1	24	2,190	8,760
	008767	Waukesha (WAK)	Cal Coast Inj	12086	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	008784	M & M (800)	Well Pump	12145	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004356	M & M (800)	Well Pump	12151	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004357	M & M (HD800)	Well Pump	12153	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004371	M & M (800)	Well Pump	12155	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004350	M & M (800)	Well Pump	12158	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004345	M & M (800)	Well Pump	12159	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	004353	M & M (800)	Well Pump	12161	FNG	0.0796	48.0	Orifice Plate @ 0.85"	8,150	0.39	3,427	1	1	24	2,190	8,760
	005306	Waukesha (WAK)	Cal Coast Inj	12168	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
	005309	Waukesha (WAK)	Cal Coast Inj	12169	FNG	0.0796	49.6	Orifice Plate @ 0.98"	9,100	0.45	3,954	1	1	24	2,190	8,760
<b>Limited Use Lean-Burn, Two-Stroke, Non-Cyclic Internal Combustion Engine</b>																
	004434	Clark / RA-4	Comp Plant	19786	FNG	0.0796	400.0	Nameplate	13,750	5.50	1,100	1	1	24	200	200
<b>Controlled Limited Use Rich-Burn, Non-Cyclic Internal Combustion Engine</b>																
	004435	Waukesha (2475)	Fox Inj	12163	FNG	0.0796	301.0	Nameplate	9,100	2.74	548	1	1	24	200	200

Table 5.1-2  
 Permit to Operate 8039-R7  
 BreitBurn Energy Circut Hill Internal Combustion Engines  
 Emission Factors

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx	ROC	CO	SOx	PM	PM10	E F Units	References
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>											
	004416	M & M (HEB)	7439	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004390	M & M (605)	8488	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004388	M & M (605)	8767	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004430	M & M (605)	8785	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004322	M & M (605)	8826	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004411	M & M (283)	8864	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004399	M & M (605)	8874	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004376	M & M (283)	8967	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004403	M & M (283)	8970	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005865	M & M (283)	8971	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004393	M & M (403)	8987	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	006473	M & M (403)	8996	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004397	M & M (283)	9228	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004417	M & M (403)	9232	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004421	M & M (605)	9268	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004429	M & M (605)	9277	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004383	M & M (283)	9300	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004394	M & M (283)	9534	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101250	M & M (403)	9602	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004365	M & M (283)	9603	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004404	Leroi (226)	9748	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004377	M & M (283)	9904	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101251	Leroi (226)	9984	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101252	M & M (425)	10373	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004381	M & M (425)	10498	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004420	Leroi (226)	10757	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004386	M & M (425)	10775	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004392	M & M (425)	10786	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004413	M & M (605)	10905	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004311	M & M (605)	10923	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004379	Leroi (226)	10986	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004419	M & M (283)	11105	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101253	Leroi (226)	11285	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004401	M & M (283)	11330	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008779	M & M (605)	11386	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004423	M & M (403)	11843	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004418	M & M (425)	11609	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004408	M & M (283)	11792	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004398	M & M (283)	11841	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A

**Table 5.1-2  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Emission Factors**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx	ROC	CO	SOx	PM	PM10	E F Units	References
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>											
	004384	M & M (283)	11842	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101254	M & M (425)	11858	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008996	M & M (425)	11863	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008780	M & M (605)	11889	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004385	International (153)	11891	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004382	M & M (HEB)	11931	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004380	M & M (425)	11971	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004396	M & M (605)	11999	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004412	M & M (605)	12004	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004378	International (153)	12023	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008781	M & M (605)	12034	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004391	M & M (425)	12045	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004432	M & M (HEB)	12068	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004427	M & M (605)	12122	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004400	M & M (605)	12133	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004425	M & M (283)	12166	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	107312	LeRoi	9270	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
<b>Limited Use Rich-Burn Non-Cyclic Uncontrolled Internal Combustion Engines</b>											
	004306	M & M (800T)	12195	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004305	M & M (800T)	12205	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>											
	004317	Waukesha (140)	8226	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004316	Waukesha (140)	8343	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004359	Waukesha (145)	9553	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101255	Waukesha (145)	9746	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008183	Waukesha (817)	9749	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101256	Waukesha (145)	9818	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008184	Waukesha (145)	10215	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005307	Waukesha (WAK)	10367	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101257	Waukesha (WAK)	10370	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004307	Waukesha (WAK)	10939	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008762	Waukesha (WAK)	11010	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004314	Waukesha (WAK)	11025	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008763	Waukesha (WAK)	11033	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004406	Waukesha (WAK)	11045	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004331	Waukesha (817)	11143	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A

**Table 5.1-2**  
**Permit to Operate 8039-R7**  
**BreitBurn Energy Orcutt Hill Internal Combustion Engines**  
**Emission Factors**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx	ROC	CO	SOx	PM	PM10	E F Units	References
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>											
	008185	Waukesha (195)	11230	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005305	Waukesha (WAK)	11310	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101258	Waukesha (140)	11441	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004325	Waukesha (140)	11473	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101259	Waukesha (145)	11478	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004338	Waukesha (145)	11480	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004336	Waukesha (145)	11484	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004367	Waukesha (145)	11489	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004368	Waukesha (145)	11495	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008764	Waukesha (145)	11499	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004362	Waukesha (145)	11502	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004341	Waukesha (145)	11504	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004355	Waukesha (145)	11505	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004372	Waukesha (817)	11511	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008782	Waukesha (145)	11512	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004342	Waukesha (145)	11513	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004364	Waukesha (145)	11521	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004351	M & M (800)	11523	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004339	Waukesha (145)	11529	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004354	Waukesha (817)	11538	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004310	Waukesha (WAK)	11546	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004308	Waukesha (WAK)	11549	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004360	Waukesha (817)	11550	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005310	Waukesha (WAK)	11558	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004312	Waukesha (145)	11591	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004402	Waukesha (145)	11615	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004319	Waukesha (140)	11627	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005304	Waukesha (140)	11628	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004344	M & M (800)	11667	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004343	Waukesha (145)	11695	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004358	M & M (800)	11697	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A

**Table 5.1-2  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Emission Factors**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx	ROC	CO	SOx	PM	PM10	E F Units	References
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>											
	004348	M & M (800)	11698	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008998	Waukesha (145)	11712	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004315	Waukesha (195)	11783	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008783	M & M (335)	11830	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004323	Waukesha (140)	11848	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101260	Waukesha (140)	11849	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004320	Waukesha (140)	11927	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	101261	Waukesha (140)	11984	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005308	Waukesha (WAK)	11973	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008766	Waukesha (817)	11975	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004324	Waukesha (145)	11983	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008767	Waukesha (WAK)	12086	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	008784	M & M (800)	12145	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004356	M & M (800)	12151	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004357	M & M (HD800)	12153	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004371	M & M (800)	12155	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004350	M & M (800)	12158	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004345	M & M (800)	12159	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	004353	M & M (800)	12161	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005306	Waukesha (WAK)	12168	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
	005309	Waukesha (WAK)	12189	1.905	0.103	1.600	0.100	0.010	0.010	lb/MMBtu	A
<b>Limited Use Lean-Burn, Two-Stroke, Non-Cyclic Internal Combustion Engine</b>											
	004434	Clark / RA-4	19766	1.905	0.103	0.400	0.100	0.046	0.046	lb/MMBtu	A
<b>Controlled Limited Use Rich-Burn, Non-Cyclic Internal Combustion Engine</b>											
	004435	Waukesha (2475)	12163	0.190	0.830	10.100	0.100	0.010	0.010	lb/MMBtu	A

**Notes:**

1. Emission factors from SBCAPCD Permit Guideline Document: "Reciprocating Gas-Fired Internal Combustion Engines"
2. Field gas high heating value = 1,350 Btu/scf

**Table 5.1-3  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Hourly and Daily Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx lb/hr	NOx lb/day	ROC lb/hr	ROC lb/day	CO lb/hr	CO lb/day	SOx lb/hr	SOx lb/day	PM lb/hr	PM lb/day	PM10 lb/hr	PM10 lb/day	Enforceability Type	Enforceability Basis
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>																	
	004416	M & M (HEB)	7439	0.82	22.08	0.05	1.19	0.77	18.55	0.05	1.16	0.00	0.12	0.00	0.12	A	--
	004390	M & M (605)	8488	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004388	M & M (605)	8767	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004430	M & M (605)	8785	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004322	M & M (605)	8826	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004411	M & M (283)	8664	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004399	M & M (605)	8874	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004376	M & M (283)	8967	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004403	M & M (283)	8970	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	005865	M & M (283)	8971	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004393	M & M (403)	8987	0.67	16.09	0.04	0.87	0.56	13.52	0.04	0.84	0.00	0.08	0.00	0.08	A	--
	006473	M & M (403)	8996	0.67	16.09	0.04	0.87	0.56	13.52	0.04	0.84	0.00	0.08	0.00	0.08	A	--
	004397	M & M (283)	9228	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004417	M & M (403)	9232	0.67	16.09	0.04	0.87	0.56	13.52	0.04	0.84	0.00	0.08	0.00	0.08	A	--
	004421	M & M (605)	9268	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004429	M & M (605)	9277	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004383	M & M (283)	9300	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004394	M & M (283)	9534	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	101250	M & M (403)	9602	0.67	16.09	0.04	0.87	0.56	13.52	0.04	0.84	0.00	0.08	0.00	0.08	A	--
	004365	M & M (283)	9603	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004404	Lerol (226)	9748	0.40	9.57	0.02	0.52	0.33	8.04	0.02	0.50	0.00	0.05	0.00	0.05	A	--
	004377	M & M (283)	9904	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	101251	Lerol (226)	9994	0.40	9.57	0.02	0.52	0.33	8.04	0.02	0.50	0.00	0.05	0.00	0.05	A	--
	101252	M & M (425)	10373	0.78	18.72	0.04	1.01	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004381	M & M (425)	10498	0.78	18.72	0.04	1.01	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004420	Lerol (226)	10757	0.40	9.57	0.02	0.52	0.33	8.04	0.02	0.50	0.00	0.05	0.00	0.05	A	--
	004386	M & M (425)	10775	0.78	18.72	0.04	1.01	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004392	M & M (425)	10786	0.78	18.72	0.04	1.01	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004413	M & M (605)	10905	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004311	M & M (605)	10923	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004379	Lerol (226)	10966	0.40	9.57	0.02	0.52	0.33	8.04	0.02	0.50	0.00	0.05	0.00	0.05	A	--
	004419	M & M (283)	11105	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	101253	Lerol (226)	11285	0.40	9.57	0.02	0.52	0.33	8.04	0.02	0.50	0.00	0.05	0.00	0.05	A	--
	004401	M & M (283)	11330	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	008779	M & M (605)	11386	0.96	23.13	0.05	1.25	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004423	M & M (403)	11843	0.67	16.09	0.04	0.87	0.56	13.52	0.04	0.84	0.00	0.08	0.00	0.08	A	--
	004418	M & M (425)	11609	0.78	18.72	0.04	1.01	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004408	M & M (283)	11792	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	004398	M & M (283)	11841	0.50	12.00	0.03	0.65	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--

**Table 5.1-3  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Hourly and Daily Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx lb/hr	NOx lb/day	ROC lb/hr	CO lb/hr	CO lb/day	SOx lb/hr	SOx lb/day	PM lb/hr	PM lb/day	PM10 lb/hr	PM10 lb/day	Enforceability Type	Enforceability Basis
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004384	M & M (283)	11842	0.50	12.00	0.03	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	101254	M & M (425)	11858	0.78	18.72	0.04	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	008995	M & M (425)	11883	0.78	18.72	0.04	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	008780	M & M (605)	11889	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004385	International (153)	11891	0.49	11.95	0.03	0.41	9.78	0.03	0.61	0.00	0.06	0.00	0.06	A	--
	004382	M & M (HEB)	11931	0.92	22.08	0.05	0.77	18.55	0.05	1.16	0.00	0.12	0.00	0.12	A	--
	004380	M & M (425)	11971	0.78	18.72	0.04	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004396	M & M (605)	11999	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004412	M & M (605)	12004	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004378	International (153)	12023	0.49	11.95	0.03	0.41	9.78	0.03	0.61	0.00	0.06	0.00	0.06	A	--
	008781	M & M (605)	12034	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004391	M & M (425)	12045	0.78	18.72	0.04	0.66	15.72	0.04	0.98	0.00	0.10	0.00	0.10	A	--
	004432	M & M (HEB)	12068	0.92	22.08	0.05	0.77	18.55	0.05	1.16	0.00	0.12	0.00	0.12	A	--
	004427	M & M (605)	12122	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004400	M & M (605)	12133	0.96	23.13	0.05	0.81	19.43	0.05	1.21	0.01	0.12	0.01	0.12	A	--
	004425	M & M (283)	12166	0.50	12.00	0.03	0.42	10.08	0.03	0.63	0.00	0.06	0.00	0.06	A	--
	107312	LeRoi	9270	0.46	11.04	0.02	0.39	9.27	0.02	0.58	0.00	0.06	0.00	0.06	FE	ATC 11372
<b>Limited Use Rich-Burn Non-Cyclic Uncontrolled Internal Combustion Engines</b>																
	004306	M & M (800T)	12195	2.72	65.21	0.15	2.28	54.77	0.14	3.41	0.01	0.34	0.01	0.34	A	--
	004305	M & M (800T)	12205	2.72	65.21	0.15	2.28	54.77	0.14	3.41	0.01	0.34	0.01	0.34	A	--
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004317	Waukesha (140)	8226	0.86	20.59	0.05	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004316	Waukesha (140)	8343	0.86	20.59	0.05	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004359	Waukesha (145)	9553	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
	101255	Waukesha (145)	9746	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
	008183	Waukesha (817)	9749	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
	101256	Waukesha (145)	9818	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
	008184	Waukesha (145)	10215	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
	005307	Waukesha (WAK)	10367	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	101257	Waukesha (WAK)	10370	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004307	Waukesha (WAK)	10939	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	008762	Waukesha (WAK)	11010	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004314	Waukesha (WAK)	11025	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	008763	Waukesha (WAK)	11033	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004406	Waukesha (WAK)	11045	0.86	20.64	0.05	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
	004331	Waukesha (817)	11143	0.94	22.63	0.05	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--

**Table 5.1-3  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Hourly and Daily Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		ROC		CO		SOx		PM		PM10		Enforceability	
				lb/hr	lb/day	Type	Basis										
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																	
008185	Waukesha (195)		11230	0.72	17.39	0.04	0.94	0.61	14.61	0.04	0.91	0.00	0.09	0.00	0.09	A	--
005305	Waukesha (WAK)		11310	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
101258	Waukesha (140)		11441	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004325	Waukesha (140)		11473	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
101259	Waukesha (145)		11478	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004338	Waukesha (145)		11480	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004336	Waukesha (145)		11484	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004367	Waukesha (145)		11489	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004368	Waukesha (145)		11495	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
008784	Waukesha (145)		11499	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004382	Waukesha (145)		11502	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004341	Waukesha (145)		11504	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004355	Waukesha (145)		11505	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004372	Waukesha (817)		11511	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
008782	Waukesha (145)		11512	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004342	Waukesha (145)		11513	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004364	Waukesha (145)		11521	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004351	M & M (800)		11523	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004339	Waukesha (145)		11529	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004354	Waukesha (817)		11538	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004310	Waukesha (WAK)		11546	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004308	Waukesha (WAK)		11549	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004360	Waukesha (817)		11550	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
005310	Waukesha (WAK)		11558	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004312	Waukesha (145)		11591	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004402	Waukesha (145)		11615	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004319	Waukesha (140)		11627	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
005304	Waukesha (140)		11628	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004344	M & M (800)		11667	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004343	Waukesha (145)		11695	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004358	M & M (800)		11697	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--

**Table 5.1-3  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Hourly and Daily Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		ROC		CO		SOx		PM		PM10		Enforceability Type	Basis
				lb/hr	lb/day												
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																	
004348	M & M (800)		11698	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
008998	Waukesha (145)		11712	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004315	Waukesha (195)		11763	0.72	17.39	0.04	0.94	0.61	14.61	0.04	0.91	0.00	0.09	0.00	0.09	A	--
008783	M & M (336)		11830	0.74	17.70	0.04	0.96	0.62	14.86	0.04	0.93	0.00	0.09	0.00	0.09	A	--
004323	Waukesha (140)		11848	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
101260	Waukesha (140)		11849	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
004320	Waukesha (140)		11927	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
101281	Waukesha (140)		11964	0.86	20.59	0.05	1.11	0.72	17.30	0.04	1.08	0.00	0.11	0.00	0.11	A	--
005308	Waukesha (WAK)		11973	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
008766	Waukesha (817)		11975	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
004324	Waukesha (145)		11983	0.94	22.63	0.05	1.22	0.79	19.01	0.05	1.18	0.00	0.12	0.00	0.12	A	--
008767	Waukesha (WAK)		12066	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
008784	M & M (800)		12145	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004356	M & M (800)		12151	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004357	M & M (HD800)		12153	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004371	M & M (800)		12155	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004350	M & M (800)		12158	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004345	M & M (800)		12159	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
004353	M & M (800)		12161	0.75	17.89	0.04	0.97	0.63	15.02	0.04	0.94	0.00	0.09	0.00	0.09	A	--
005306	Waukesha (WAK)		12168	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
005309	Waukesha (WAK)		12169	0.86	20.64	0.05	1.12	0.72	17.33	0.04	1.08	0.00	0.11	0.00	0.11	A	--
<b>Limited Use Lean-Burn, Two-Stroke, Non-Cyclic Internal Combustion Engine</b>																	
004434	Clark / RA-4		19766	10.48	251.46	0.57	13.60	2.20	52.80	0.55	13.15	0.25	6.07	0.25	6.07	FE	ATC 9119
<b>Controlled Limited Use Rich-Burn, Non-Cyclic Internal Combustion Engine</b>																	
004435	Waukesha (2475)		12163	0.62	12.49	2.27	54.56	27.66	663.96	0.27	6.55	0.03	0.66	0.03	0.66	FE	ATC 8955

**Table 5.1-4  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Quarterly and Annual Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		CO		SOx		PM		PM10		Enforceability Type	Basis	
				TPQ	TPY			TPQ								
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
	004416	M & M (HEB)	7439	1.01	4.03	0.05	0.22	0.85	0.05	0.21	0.01	0.02	0.01	0.02	A	--
	004390	M & M (605)	8488	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004388	M & M (605)	8785	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004430	M & M (605)	8785	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004322	M & M (605)	8626	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004411	M & M (283)	8864	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004399	M & M (605)	8874	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004376	M & M (283)	8967	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004403	M & M (283)	8970	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	005866	M & M (283)	8971	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004393	M & M (403)	8987	0.73	2.94	0.04	0.16	0.62	0.04	0.15	0.00	0.02	0.00	0.02	A	--
	006473	M & M (403)	8996	0.73	2.94	0.04	0.16	0.62	0.04	0.15	0.00	0.02	0.00	0.02	A	--
	004397	M & M (283)	9228	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004417	M & M (402)	9232	0.73	2.94	0.04	0.16	0.62	0.04	0.15	0.00	0.02	0.00	0.02	A	--
	004421	M & M (605)	9266	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004429	M & M (605)	9277	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004383	M & M (283)	9300	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004394	M & M (283)	9534	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	101250	M & M (403)	9602	0.73	2.94	0.04	0.16	0.62	0.04	0.15	0.00	0.02	0.00	0.02	A	--
	004365	M & M (283)	9603	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004404	Lerol (226)	9748	0.44	1.75	0.02	0.09	0.37	0.02	0.09	0.00	0.01	0.00	0.01	A	--
	004377	M & M (283)	9904	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	101251	Lerol (226)	9994	0.44	1.75	0.02	0.09	0.37	0.02	0.09	0.00	0.01	0.00	0.01	A	--
	101252	M & M (425)	10373	0.85	3.42	0.05	0.18	0.72	0.04	0.18	0.00	0.02	0.00	0.02	A	--
	004381	M & M (425)	10498	0.85	3.42	0.05	0.18	0.72	0.04	0.18	0.00	0.02	0.00	0.02	A	--
	004420	Lerol (226)	10757	0.44	1.75	0.02	0.09	0.37	0.02	0.09	0.00	0.01	0.00	0.01	A	--
	004386	M & M (425)	10775	0.85	3.42	0.05	0.18	0.72	0.04	0.18	0.00	0.02	0.00	0.02	A	--
	004392	M & M (425)	10786	0.85	3.42	0.05	0.18	0.72	0.04	0.18	0.00	0.02	0.00	0.02	A	--
	004413	M & M (605)	10905	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004311	M & M (605)	10923	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004379	Lerol (226)	10986	0.44	1.75	0.02	0.09	0.37	0.02	0.09	0.00	0.01	0.00	0.01	A	--
	004419	M & M (283)	11105	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	101253	Lerol (226)	11285	0.44	1.75	0.02	0.09	0.37	0.02	0.09	0.00	0.01	0.00	0.01	A	--
	004401	M & M (283)	11330	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	008779	M & M (605)	11386	1.06	4.22	0.06	0.23	0.89	0.06	0.22	0.01	0.02	0.01	0.02	A	--
	004423	M & M (403)	11643	0.73	2.94	0.04	0.16	0.62	0.04	0.15	0.00	0.02	0.00	0.02	A	--
	004418	M & M (425)	11609	0.85	3.42	0.05	0.18	0.72	0.04	0.18	0.00	0.02	0.00	0.02	A	--
	004408	M & M (283)	11792	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--
	004398	M & M (283)	11841	0.55	2.19	0.03	0.12	0.46	0.03	0.11	0.00	0.01	0.00	0.01	A	--

**Table 5.1-4  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Quarterly and Annual Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		CO		SOx		PM		PM10		Enforceability Type Basis		
				TPQ	TPY		TPQ	TPY								
<b>Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
004384	M & M (263)		11842	0.55	2.19	0.03	0.12	0.46	1.84	0.03	0.11	0.00	0.01	0.00	0.01	A
101254	M & M (425)		11858	0.85	3.42	0.05	0.18	0.72	2.87	0.04	0.18	0.00	0.02	0.00	0.02	A
008996	M & M (425)		11883	0.85	3.42	0.05	0.18	0.72	2.87	0.04	0.18	0.00	0.02	0.00	0.02	A
008780	M & M (605)		11889	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004385	International (153)		11891	0.53	2.13	0.03	0.11	0.45	1.79	0.03	0.11	0.00	0.01	0.00	0.01	A
004382	M & M (HEB)		11931	1.01	4.03	0.05	0.22	0.85	3.38	0.05	0.21	0.01	0.02	0.01	0.02	A
004380	M & M (425)		11971	0.85	3.42	0.05	0.18	0.72	2.87	0.04	0.18	0.00	0.02	0.00	0.02	A
004396	M & M (605)		11999	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004412	M & M (605)		12004	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004378	International (153)		12023	0.53	2.13	0.03	0.11	0.45	1.79	0.03	0.11	0.00	0.01	0.00	0.01	A
008781	M & M (605)		12034	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004391	M & M (425)		12045	0.85	3.42	0.05	0.18	0.72	2.87	0.04	0.18	0.00	0.02	0.00	0.02	A
004432	M & M (HEB)		12068	1.01	4.03	0.05	0.22	0.85	3.38	0.05	0.21	0.01	0.02	0.01	0.02	A
004427	M & M (605)		12122	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004400	M & M (605)		12133	1.06	4.22	0.06	0.23	0.89	3.55	0.06	0.22	0.01	0.02	0.01	0.02	A
004425	M & M (263)		12166	0.55	2.19	0.03	0.12	0.46	1.84	0.03	0.11	0.00	0.01	0.00	0.01	A
107312	LeRoI		9270	0.23	0.23	0.01	0.01	0.19	0.19	0.01	0.01	0.00	0.00	0.00	0.00	FE ATC-11372
<b>Limited Use Rich-Burn Non-Cyclic Uncontrolled Internal Combustion Engines</b>																
004306	M & M (800T)		12195	0.27	0.27	0.01	0.01	0.23	0.23	0.01	0.01	0.00	0.00	0.00	0.00	A
004305	M & M (800T)		12205	0.27	0.27	0.01	0.01	0.23	0.23	0.01	0.01	0.00	0.00	0.00	0.00	A
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																
004317	Waukesha (140)		8228	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004316	Waukesha (140)		8343	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004359	Waukesha (145)		9553	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A
101255	Waukesha (145)		9746	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A
008183	Waukesha (617)		9749	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A
101256	Waukesha (145)		9818	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A
008184	Waukesha (145)		10215	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A
005307	Waukesha (WAK)		10367	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
101257	Waukesha (WAK)		10370	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004307	Waukesha (WAK)		10939	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
008782	Waukesha (WAK)		11010	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004314	Waukesha (WAK)		11025	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
008763	Waukesha (WAK)		11033	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004406	Waukesha (WAK)		11045	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A
004331	Waukesha (617)		11143	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A

**Table 5.1-4  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Quarterly and Annual Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		CO		SOx		PM		PM10		Enforceability Type	Basis
				TPQ	TPY										
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>															
	008185	Waukesha (195)	11230	0.79	3.17	0.67	2.67	0.04	0.17	0.00	0.02	0.00	0.02	A	--
	005305	Waukesha (WAK)	11310	0.94	3.77	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	101258	Waukesha (140)	11441	0.94	3.76	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	004325	Waukesha (140)	11473	0.94	3.76	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	101259	Waukesha (145)	11478	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004338	Waukesha (145)	11480	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004336	Waukesha (145)	11484	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004367	Waukesha (145)	11488	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004368	Waukesha (145)	11495	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	008764	Waukesha (145)	11499	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004362	Waukesha (145)	11502	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004341	Waukesha (145)	11504	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004355	Waukesha (145)	11505	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004372	Waukesha (817)	11511	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	008782	Waukesha (145)	11512	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004342	Waukesha (145)	11513	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004364	Waukesha (145)	11521	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004351	M & M (800)	11523	0.82	3.26	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	A	--
	004339	Waukesha (145)	11529	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004354	Waukesha (817)	11538	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004310	Waukesha (WAK)	11546	0.94	3.77	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	004308	Waukesha (WAK)	11549	0.94	3.77	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	004360	Waukesha (817)	11550	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	005310	Waukesha (WAK)	11558	0.94	3.77	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	004312	Waukesha (145)	11591	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004402	Waukesha (145)	11615	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004319	Waukesha (140)	11627	0.94	3.76	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	005304	Waukesha (140)	11628	0.94	3.76	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	A	--
	004344	M & M (800)	11667	0.82	3.26	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	A	--
	004343	Waukesha (145)	11695	1.03	4.13	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	A	--
	004358	M & M (800)	11697	0.82	3.26	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	A	--

**Table 5.1-4  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Quarterly and Annual Emissions**

APCD Equipment Category	Device Number	Emission Unit	BreitBurn ID #	NOx		ROC		CO		SOx		PM		PM10		Enforceability Basis	
				TPQ	TPY		Type										
<b>Derated Rich-Burn Non-Cyclic Internal Combustion Engines</b>																	
	004348	M & M (800)	11698	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	008998	Waukesha (145)	11712	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	0.02	A
	004315	Waukesha (195)	11763	0.79	3.17	0.04	0.17	0.67	2.67	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	008783	M & M (336)	11830	0.81	3.23	0.04	0.17	0.68	2.71	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004323	Waukesha (140)	11848	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	101260	Waukesha (140)	11849	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	004320	Waukesha (140)	11927	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	101261	Waukesha (140)	11964	0.94	3.76	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	005308	Waukesha (WAK)	11973	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	008766	Waukesha (817)	11975	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	0.02	A
	004324	Waukesha (145)	11983	1.03	4.13	0.06	0.22	0.87	3.47	0.05	0.22	0.01	0.02	0.01	0.02	0.02	A
	008767	Waukesha (WAK)	12066	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	008784	M & M (800)	12145	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004356	M & M (800)	12151	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004357	M & M (HD800)	12153	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004371	M & M (800)	12155	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004350	M & M (800)	12158	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004345	M & M (800)	12159	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	004353	M & M (800)	12161	0.82	3.26	0.04	0.18	0.69	2.74	0.04	0.17	0.00	0.02	0.00	0.02	0.02	A
	005306	Waukesha (WAK)	12168	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
	005309	Waukesha (WAK)	12169	0.94	3.77	0.05	0.20	0.79	3.16	0.05	0.20	0.00	0.02	0.00	0.02	0.02	A
<b>Limited Use Lean-Burn, Two-Stroke, Non-Cyclic Internal Combustion Engine</b>																	
	004434	Clark / RA-4	19766	1.05	1.05	0.06	0.06	0.22	0.22	0.05	0.05	0.03	0.03	0.03	0.03	0.03	FE
<b>Controlled Limited Use Rich-Burn, Non-Cyclic Internal Combustion Engine</b>																	
	004435	Waukesha (2475)	12163	0.05	0.05	0.23	0.23	2.77	2.77	0.03	0.03	0.00	0.00	0.00	0.00	0.00	FE

**Table 5.2**  
**Permit to Operate 8039-R7**  
**BreitBurn Energy Orcutt Hill Internal Combustion Engines**  
**Total Permitted Facility Emissions**

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

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Internal Combustion Engines	114.18	8.42	116.53	6.22	0.82	0.82
	<b>114.18</b>	<b>8.42</b>	<b>116.53</b>	<b>6.22</b>	<b>0.82</b>	<b>0.82</b>

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

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Internal Combustion Engines	2,740.33	202.05	2,796.66	149.24	19.73	19.73
	<b>2,740.33</b>	<b>202.05</b>	<b>2,796.66</b>	<b>149.24</b>	<b>19.73</b>	<b>19.73</b>

**C. QUARTERLY (tpq)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Internal Combustion Engines	108.40	6.09	93.11	5.70	0.59	0.59
	<b>108.40</b>	<b>6.09</b>	<b>93.11</b>	<b>5.70</b>	<b>0.59</b>	<b>0.59</b>

**D. ANNUAL (tpy)**

Equipment Category	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
Internal Combustion Engines	428.00	23.37	361.53	22.41	2.27	2.27
	<b>428.00</b>	<b>23.37</b>	<b>361.53</b>	<b>22.41</b>	<b>2.27</b>	<b>2.27</b>

**Table 5.3**  
**Permit to Operate 8039-R7**  
**BreitBurn Energy Orcutt Hill Internal Combustion Engines**  
**Exempt Facility Emissions**

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
No exempt equipment	0.00	0.00	0.00	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
No exempt equipment	0.00	0.00	0.00	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**C. QUARTERLY (tpq)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
No exempt equipment	0.00	0.00	0.00	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**D. ANNUAL (tpy)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
No exempt equipment	0.00	0.00	0.00	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Table 5.4**  
**Permit to Operate 8039-R7**  
**BreitBurn Energy Orcutt Hill Internal Combustion Engines**  
**Federal Potential to Emit**

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Internal Combustion Engines	114.18	8.42	116.53	6.22	0.82	0.82
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00
	<b>114.18</b>	<b>8.42</b>	<b>116.53</b>	<b>6.22</b>	<b>0.82</b>	<b>0.82</b>

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

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Internal Combustion Engines	2,740.33	202.05	2,796.66	149.24	19.73	19.73
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00
	<b>2,740.33</b>	<b>202.05</b>	<b>2,796.66</b>	<b>149.24</b>	<b>19.73</b>	<b>19.73</b>

**C. QUARTERLY (tpq)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Internal Combustion Engines	108.40	6.09	93.11	5.70	0.59	0.59
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00
	<b>108.40</b>	<b>6.09</b>	<b>93.11</b>	<b>5.70</b>	<b>0.59</b>	<b>0.59</b>

**D. ANNUAL (tpy)**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Internal Combustion Engines	428.00	23.37	361.53	22.41	2.27	2.27
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00
	<b>428.00</b>	<b>23.37</b>	<b>361.53</b>	<b>22.41</b>	<b>2.27</b>	<b>2.27</b>

**Table 5.5-1  
Permit to Operate 8039-R7  
BreitBurn Orcutt Hill Internal Combustion Engines  
Hazardous Pollutant Emission Factors**

Equipment Category	Burn	Device ID#	Emission Factors				Toluene	Units	References
			Formaldehyde	Acrolein	Acetaldehyde	Benzene			
Internal Combustion Engines	Rich	All but 004434	1.33E-02	1.33E-03	2.52E-03	1.48E-03	4.96E-04	lb/MMBtu	USEPA AP-42 (2/98) Table 3.2-4 Table 3.2-1
	Lean	004434	5.70E-02	6.15E-03	6.81E-02	2.22E-03	8.89E-04	lb/MMBtu	

**Table 5.5-2  
Permit to Operate 8039-R7  
BreitBurn Orcutt Hill Internal Combustion Engines  
Hazardous Pollutant Emissions**

Equipment Category	Device ID#	Formaldehyde		Acrolein		Acetaldehyde		Benzene		Toluene	
		lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year	lb/day	ton/year
Internal Combustion Engines	All but 004434	20.35	3.55	2.03	0.36	3.84	0.67	2.26	0.39	0.76	0.13
	004434	11.28	2.06	1.22	0.22	13.48	2.46	0.44	0.08	0.18	0.03
<b>Total</b>		<b>31.63</b>	<b>5.61</b>	<b>3.25</b>	<b>0.58</b>	<b>17.32</b>	<b>3.13</b>	<b>2.70</b>	<b>0.47</b>	<b>0.93</b>	<b>0.16</b>

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

## 6.0 Air Quality Impact Analyses

### 6.1 Modeling

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

### 6.2 Increments

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

### 6.3 Monitoring

Air quality monitoring is not required for this stationary source.

### 6.4 Health Risk Assessment

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

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

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

Pathway	Health Impact Type	HARP Receptor Number	HARP Receptor Type	UTM Easting (NAD83, m)	UTM Northing (NAD83, m)	Health Risk	Significant Risk Level
Inhalation Only	Cancer	12024	Boundary	735210	3858241	8.73	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1
Multi Pathway	Cancer	12024	Boundary	735210	3858241	9.80	≥ 10
	Chronic	12024	Boundary	735210	3858241	0.0175	≥ 1
	Acute	11936	Boundary	735998	3859372	0.823	≥ 1

An official AB2588 quadrennial update including an updated HRA will be required under the Air Toxics “Hot Spots” Program to ensure the source does not pose a significant risk.

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

### **7.1 General**

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

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

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

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

### **7.2 Clean Air Plan**

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

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

### 7.3 Offset Requirements

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

### 7.4 Emission Reduction Credits

The following is Emission Reduction Credits activity related to this permit:

#### DOI 0031:

This action (10/07/2002) approved ERCs for NO<sub>x</sub>, ROC, CO and SO<sub>x</sub> from the electrification of the Clark RA-4 field gas compressor engine at the compressor plant on the BreitBurn Orcutt Hill stationary source.

a.	<u>Total DOI ERCs Approved:</u>	NO <sub>x</sub>	=	0.000	tpq (3.140 tpy)
		ROC	=	7.195	tpq (28.949 tpy)
		CO	=	2.681	tpq (11.382 tpy)
		SO <sub>x</sub>	=	0.083	tpq (0.543 tpy)

#### DOI 0038:

This action (03/23/2005) approved ERCs for NO<sub>x</sub>, ROC, and SO<sub>x</sub> ERCs from the electrification of the well pump used at the Fox injection well on the Fox Lease on the BreitBurn Orcutt Hill stationary source.

a.	<u>Total DOI ERCs Approved:</u>	NO <sub>x</sub>	=	0.068	tpq (0.428 tpy)
		ROC	=	0.093	tpq (1.053 tpy)
		SO <sub>x</sub>	=	0.076	tpq (0.387 tpy)

#### DOI 0046:

This action (12/18/07) approved ERCs for NO<sub>x</sub>, ROC, and CO ERCs from the replacement of 17 field gas fired injection engines with electric motors. Each engine was rated less than 50 bhp. This includes 4 engines at the Newlove 67 injection facility, 3 engines at the Pinal injection facility and 10 engines at the Newlove injection facility, all located on the Orcutt Hill stationary source. Issuance of the final ERC certificate is pending.

a.	<u>Total DOI ERCs Approved:</u>	NO <sub>x</sub>	=	8.014	tpq (32.056 tpy)
		ROC	=	0.655	tpq (2.620 tpy)
		CO	=	6.023	tpq (24.092 tpy)

### 8.0 Lead Agency Permit Consistency

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

## 9.0 Permit Conditions

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

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

### 9.A Standard Administrative Conditions

The following federally-enforceable administrative permit conditions apply to the Orcutt Hill internal combustion engines:

#### A.1 Compliance with Permit Conditions:

- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
  - (i) compliance with the permit, or
  - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. [*Re: 40 CFR Part 70.6, APCD Rules 1303.D.1*]
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the

condition most protective of air quality and public health and safety shall prevail to the extent feasible.

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

A.3 **Compliance Plan:**

- (a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in the Compliance Plan.
- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards. [*Re: APCD Rule 1302.D.2*]

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

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [*Re: APCD Rule 1303.D.2*]

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

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

A.6 **Payment of Fees:** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to

potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: APCD Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6]

- A.7 **Prompt Reporting of Deviations:** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [APCD Rule 1303.D.1, 40 CFR 70.6(a) (3)]
- A.8 **Reporting Requirements/Compliance Certification:** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on APCD forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1<sup>st</sup> and March 1<sup>st</sup>, 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 the 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 or 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 Ringelmann 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 BreitBurn Orcutt Hill Stationary Source shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. [Re: APCD Rule 303]
- B.4 **Specific Contaminants (Rule 309):** The permittee shall not discharge into the atmosphere from any single source sulfur compounds and combustion contaminants (particulate matter) in excess of the applicable standards listed in Sections A through E of Rule 309. [Re: APCD Rule 309].
- B.5 **Sulfur Content of Fuels (Rule 311):** The permittee shall not burn fuels with a sulfur content in excess of 796 ppm<sub>vd</sub> or 50 gr/100 scf (calculated as H<sub>2</sub>S) for gaseous fuel. Compliance with this condition shall be based on quarterly measurements of the fuel gas using Draeger tubes, ASTM, or other APCD-approved methods. [Reference: APCD Rule 311.B]
- B.6 **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.7 **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.8 **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 **Unmodified Rich-Burn Non-Cyclic Internal Combustion Engines:** The following equipment is included in this emissions unit category:

ID#	Equipment
107312	Gas-fired internal combustion engines with a nameplate rating greater than 20 hp and less than 50 hp.

- (a) Hourly Heat Input: Maximum heat input (MMBtu/hour) to the internal combustion engine listed in this condition is restricted to the values listed in the “Use per Hour” column of Table 5.1-1.
- (b) Annual Heat Input: Maximum annual heat input (MMBtu/year) to the internal combustion engine listed in this condition is restricted to the values listed in the “Use per Year” column of Table 5.1-1.
- (c) Fuel Type: The engine shall be fired on gaseous fuels only.
- (d) Fuel Use Monitoring: The permittee shall comply with the Fuel Use Monitoring Plan submitted by the Permittee (or his predecessor) and approved by the APCD on April 6, 1999, for the engines listed on this permit. This Plan and any subsequent updates are incorporated by reference as an enforceable part of this permit. The Plan may be modified only upon written approval by the APCD and shall be maintained on-site and made available to APCD personnel upon request.
- (e) Engine Identification: The engine shall have its Breitburn identification number permanently and legibly liquid welded or stamped into the engine block. The location of the identifying stamp shall be readily accessible for inspection. Breitburn shall maintain a reference list containing the make, model, serial number, rated maximum HP and RPM that corresponds to the Breitburn identification number on the engine block.
- (f) 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.2 **Limited Use Internal Combustion Engines:** The following equipment are included in this emissions unit category:

ID#s.	Equipment
004306, 004305, 004434 and 004435	Gas-fired internal combustion engines with a nameplate rating greater than 50 hp that operate less than 200 hours/year

- (a) Emission Limits: Emission limits for engine ID#s 004306, 004305, 004434 and 004435 are not federally-enforceable.
- (b) IC Engine ID# 004435: The operator shall meet APCD Rule 333.E.1 NO<sub>x</sub>, ROC and CO ppm<sub>v</sub> limits. The Rule 333 ppm<sub>v</sub> NO<sub>x</sub> limitations shall be verified through testing with a

portable NOx analyzer and confirmation of operation of the fuel air controller if the engine runs more than 100 hours in any six-month period.

- (c) Operational Limits: Engine ID#s 004306, 004305, 004434 and 004435 shall each operate less than two hundred (200) hours per calendar year and shall each be equipped with a non-resettable engine-use hour meter in accordance with Rule 333.D.
- (d) Monitoring: The operator shall record the engine hour meter readings every first working day of each calendar quarter.
- (e) Recordkeeping: The operator shall maintain engine hour meter logs documenting the hours of operation of engine ID#s 004306, 004305, 004434 and 004435 for each calendar year. The records (electronic or hard copy) shall be maintained by the permittee and shall be made available to the APCD upon request.
- (f) 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.3 **Derated Internal Combustion Engines:**

The orifice plate on each derated engine shall not have an orifice greater than the diameter listed in the table 5.1-1. The orifice plate shall be made from 10 gauge mild steel stock with a sharp edge circular orifice. The orifice plate shall be located between the carburetor and the intake manifold. The orifice plate shall be in place at all times the engine operates.

The operator shall inspect approximately one quarter of the orifice plates each calendar quarter and document the results of each inspection. Each orifice plate must be inspected at least once every twelve months, and different orifice plates shall be inspected each quarter until all the orifice plates have been inspected. In addition, the operator shall assist APCD personnel in the measurement and/or inspection of an orifice plate upon request. For calendar year 2009 only half of the existing orifice plates need to be inspected before year end.

The operator shall replace an orifice plate within thirty (30) calendar days after any inspection if it shows corrosion or degradation that enlarges the specified hole diameter, or if there is any other indication the plate is not properly restricting fuel flow to the engine. The APCD shall be notified in writing each time an orifice plate is replaced.

The quarterly orifice plate inspection results and the date of replacement shall be recorded in a log.

### C.4 **Temporary Engine Replacements.** Any reciprocating internal combustion engine subject to this permit may be replaced temporarily only if the requirements (a – f) listed herein are satisfied.

- (a) The permitted engine is in need of routine repair or maintenance.
- (b) The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 60 days of placement of the temporary engine. For good cause, and

with advance written APCD approval, this time period may be extended.

- (c) The temporary replacement engine has the same or lower manufacturer, or orifice plate, rated horsepower and same or lower potential to emit of each pollutant as the permitted engine that is being temporarily replaced.
- (d) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.
- (e) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form shall be sent electronically to: [temp-engine@sbcapcd.org](mailto:temp-engine@sbcapcd.org).
- (f) Within 14 days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form shall be sent electronically to: [temp-engine@sbcapcd.org](mailto:temp-engine@sbcapcd.org).

Any engine in temporary replacement service shall be immediately shut down if the APCD determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements. Such engines are subject to the provisions of New Source Review.

- C.5 **Fuel Gas Sulfur Limit:** The total sulfur content (calculated as H<sub>2</sub>S at standard conditions, 60° F and 14.7 psia) of the gaseous fuel burned at the facility shall not exceed 50 grains per 100 cubic feet (796 ppmv). The operator shall measure the total sulfur content annually in accordance with ASTM-D1072 or a APCD approved equivalent method. H<sub>2</sub>S content shall be measured quarterly using Draeger tubes or equivalent. Records shall be kept on site and made available for inspection by the APCD upon request.
- C.6 **Recordkeeping:** The operator 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.7 **Semi-Annual Monitoring/Compliance Verification Reports.** The operator 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<sup>st</sup> and March 1<sup>st</sup>, 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. Pursuant to Rule 212, a completed *APCD Annual Emissions Inventory* questionnaire shall be included in the annual report or submitted electronically via the APCD website. The report shall include the following information:
  - (a) *Limited Use Internal Combustion Engines*

- (i) Engine hour meter logs detailing the requirements of Rule 333.B.2 for any engine operating less than two hundred (200) hours per calendar year.
  - (ii) Written ICE operations logs consistent with the requirements of Rule 333.J.
- (b) *Emissions*: Annual NOx and ROC emissions from both permitted and exempt equipment.
  - (c) Written documentation of the fuel sulfur content per Condition C.5.
  - (d) The quarterly orifice plate inspection results per Condition C.3.
- C.8 **DOI #0038**: The conditions and limits contained in DOI #0038 (and all updates thereof) are hereby incorporated by reference as an enforceable part of this permit.
- C.9 **DOI #0031**: The conditions and limits contained in DOI #0031 (and all updates thereof) are hereby incorporated by reference as an enforceable part of this permit.
- C.10 **DOI #0046**: The conditions and limits contained in DOI #0046 (and all updates thereof) are hereby incorporated by reference as an enforceable part of this permit.

#### **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 **Internal Combustion Engine Operational Limits and Monitoring**: The following limits apply to all internal combustion engines included in this permit:

- (a) *Hourly Heat Input:* Maximum heat input (MMBtu/hour) to the internal combustion engines listed in this permit is restricted to the values listed in the “Use per Hour” column of Table 5.1-1.
- (b) *Annual Heat Input:* Maximum annual heat input (MMBtu/year) to the internal combustion engines listed in this permit is restricted to the values listed in the “Use per Year” column of Table 5.1-1.
- (c) *Fuel Type:* Engines shall be fired on gaseous fuels only.
- (d) *Fuel Use Monitoring:* The permittee shall comply with the *Fuel Use Monitoring Plan* (FUMP) approved by the APCD for the engines listed in this permit. The permittee shall submit an updated version of the FUMP for APCD review and approval within 60 days after the issuance date of this permit. The FUMP may be modified only upon written approval by the APCD and shall be maintained on-site and made available to APCD personnel upon request. The latest APCD approved FUMP is incorporated by reference as an enforceable part of this permit.
- (e) *Engine Identification:* Each engine shall have its operator identification number permanently and legibly liquid welded or stamped into the engine block the location of the identifying stamp shall be the same for each engine model and shall be readily accessible for inspection.
- (f) *Reference List:* For each engine’s unique operator identification number, stamped into the engine block per Condition 9.D.4.(e), the permittee shall maintain a reference list containing the make, model, serial number, rated maximum HP and the corresponding RPM.

D.5 **ERCs - Use of the Clark Compressor.** The permittee shall provide emission offsets from the APCD’s Source Register for any NO<sub>x</sub> emissions from the operation of the Clark Compressor (ID# 004434) beyond 200 hours per year. Furthermore, the permittee must apply for an Authority to Construct for the increase in emissions if operations of the engine will exceed 200 hours per year and those increased potential emissions shall be offset with ERCs from the APCD’s Source Register.

D.6 **ERCs – Orcutt Hill Field Gas Compression.** All field gas processed at the Orcutt Hill stationary source shall be processed by electrically-driven compressors with the exception of backup compression by the Clark Compressor (ID# 004434).

D.7 **ERCs –Orcutt Hill Wastewater Injection Wells.** All injection wells located at the Newlove, Newlove 67 and Pinal Leases at the Orcutt Hill stationary source shall be powered by electrically-driven pumps.

D.8 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

D.9 **Annual Compliance Verification Reports.** The permittee shall submit a report to the APCD, by March 1<sup>st</sup> of each year containing the information listed below and shall document compliance with all applicable permit requirements. These reports shall be in a format approved by the

APCD. All logs and other basic source data not included in the report shall be available to the APCD upon request. Pursuant to Rule 212, the annual report shall include a completed *APCD Annual Emissions Inventory* questionnaire, or the questionnaire may be submitted electronically via the APCD website. The report shall include the following information:

- (a) Fuel use per Condition D.4.(d) of this permit. Monthly records shall be generated no later than 90-days after the close of the subject month.
- (b) The heating value of the gaseous fuel (Btu/SCF).
- (c) The annual emissions totals of all pollutants in tons per year for each emission unit and summarized for the entire facility.

D.10 **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.11 **Process Stream Sampling and Analysis.** The permittee shall sample analyze the process streams listed in Section 4.5 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to APCD approved ASTM methods and must follow traceable chain of custody procedures.

D.12 **Process Monitoring Systems - Operation and Maintenance:** All facility process monitoring devices listed in Section 4.4 shall be properly operated and maintained according to the *Process Monitor Calibration and Maintenance Plan* approved by the APCD on August 7, 2000.

D.13 **Mass Emission Limitations:** Mass emissions for each equipment item (i.e., emissions unit) associated with the Orcutt Hill Internal Combustion Engines shall not exceed the values listed in Table 5.1-3 and 5.1-4. Emissions for the internal combustion engines shall not exceed the total limits listed in Table 5.2.

**Air Pollution Control Officer**



JUN 02 2009

Date

NOTES:

- (a) This permit supersedes all previous APCD permits issued for the Orcutt Hill I. C. Engines.
- (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 Orcutt Hill IC Engines**

**10.2 Fee Statement**

**10.3 IDS Database Emission Tables**

**10.4 Equipment List**

**10.5 APCD Response to Comments**

## 10.1 EMISSION CALCULATION DOCUMENTATION ORCUTT HILL IC ENGINES:

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations. The letter A refers to Tables 5.1-1 and 5.1-2.

### Reference A - Internal Combustion Engines

- The maximum operating schedule is in units of hours
  - Gaseous fuel default characteristics:
    - ⇒ HHV = 1,350 Btu/scf
    - ⇒ Fuel S = 796 ppmvd as H<sub>2</sub>S for all equipment
- Brake Specific Fuel Consumption (BSFC) for each model of ICE is listed in Table 5.1-1.
- Emission factor units (lb/MMBtu) are based on HHV.
- The NO<sub>x</sub> emission factor for all uncontrolled IC engines is based on factors dictated by the APCD Hearing Board. The NO<sub>x</sub> emission factor for controlled IC engines are based on APCD Rule 333 limits.
- ROC emission factors for all uncontrolled IC engines are based on factors dictated by the APCD Hearing Board. The ROC emission factors for controlled IC engines are based on APCD Rule 333 limits, as given by the SBCAPCD PGD on reciprocating ICEs dated January 27, 1998, page 7.
- The CO emission factor for all uncontrolled IC engines is based on factors dictated by the APCD Hearing Board. The CO emission factor for controlled IC engines are based on APCD Rule 333 limits, as given by the SBCAPCD PGD on reciprocating ICEs dated January 27, 1998, page 7.
  - SO<sub>2</sub> emission limits (factors) are based on mass balance based on fuel S. Thus, for gas-fired and diesel-fired IC engines:
    - ⇒  $SO_2 \text{ (lb/MMBtu)} = 0.169 \text{ lb } SO_2/\text{scf of } H_2S * 1/\text{HHV} * (\text{ppmvd S in fuel}) = 0.100$
- PM emission limits are based on USEPA, AP-42, Table 3.2.4 (gas-fired ICE) as given by the SBCAPCD PGD on reciprocating ICEs dated January 27, 1998, page 7.



## **10.2 Fee Statement**



**FEE STATEMENT**  
**PT-70/Reeval No. 08039 - R7**  
**FID: 04214 Orcutt Hill IC Engines / SSID: 026667**



**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
004416	IC Engine: (#7439)	A3	0.480	440.07	Per 1 million Btu input	No	1	1.000	211.23	0.00	0.00	211.23
004390	IC Engine: (#8488)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004388	IC Engine: (#8767)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004430	IC Engine: (#8785)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004322	IC Engine: (#8826)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004411	IC Engine: (#8864)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004399	IC Engine: (#8874)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004376	IC Engine: (#8967)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004403	IC Engine: (#8970)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
005865	IC Engine: (#8971)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004393	IC Engine: (#8987)	A3	0.350	440.07	Per 1 million Btu input	No	1	1.000	154.02	0.00	0.00	154.02
006473	IC Engine: (#8996)	A3	0.350	440.07	Per 1 million Btu input	No	1	1.000	154.02	0.00	0.00	154.02
004397	IC Engine: (#9228)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004417	IC Engine: (#9232)	A3	0.350	440.07	Per 1 million Btu input	No	1	1.000	154.02	0.00	0.00	154.02
004421	IC Engine: (#9268)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004429	IC Engine: (#9277)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004383	IC Engine: (#9300)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004394	IC Engine: (#9534)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
101250	IC Engine: (#9602)	A3	0.350	440.07	Per 1 million Btu input	No	1	1.000	154.02	0.00	0.00	154.02

004365	IC Engine: (#9603)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004404	IC Engine: (#9748)	A3	0.210	440.07	Per 1 million Btu input	No	1	1.000	92.41	0.00	0.00	92.41
004377	IC Engine: (#9904)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
101251	IC Engine: (#9994)	A3	0.210	440.07	Per 1 million Btu input	No	1	1.000	92.41	0.00	0.00	92.41
101252	IC Engine: (#10373)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
004381	IC Engine: (#10498)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
004420	IC Engine: (#10757)	A3	0.210	440.07	Per 1 million Btu input	No	1	1.000	92.41	0.00	0.00	92.41
004386	IC Engine: (#10775)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
004392	IC Engine: (#10786)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
004413	IC Engine: (#10905)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004311	IC Engine: (#10923)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004379	IC Engine: (#10986)	A3	0.210	440.07	Per 1 million Btu input	No	1	1.000	92.41	0.00	0.00	92.41
004419	IC Engine: (#11105)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
101253	IC Engine: (#11285)	A3	0.210	440.07	Per 1 million Btu input	No	1	1.000	92.41	0.00	0.00	92.41
004401	IC Engine: (#11330)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
008779	IC Engine: (#11386)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004423	IC Engine: (#11643)	A3	0.350	440.07	Per 1 million Btu input	No	1	1.000	154.02	0.00	0.00	154.02
004418	IC Engine: (#11609)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
004408	IC Engine: (#11792)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004398	IC Engine: (#11841)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
004384	IC Engine: (#11842)	A3	0.260	440.07	Per 1 million Btu input	No	1	1.000	114.42	0.00	0.00	114.42
101254	IC Engine: (#11858)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
008996	IC Engine: (#11883)	A3	0.410	440.07	Per 1 million Btu input	No	1	1.000	180.43	0.00	0.00	180.43
008780	IC Engine: (#11889)	A3	0.510	440.07	Per 1 million Btu input	No	1	1.000	224.44	0.00	0.00	224.44
004385	IC Engine: (#11891)	A3	0.250	440.07	Per 1 million Btu input	No	1	1.000	110.02	0.00	0.00	110.02
004382	IC Engine: (#11931)	A3	0.480	440.07	Per 1 million Btu input	No	1	1.000	211.23	0.00	0.00	211.23

004380	IC Engine: (#11971)	A3	0.410	440.07	Per 1 million Btu input	No	1	1,000	180.43	0.00	0.00	180.43
004396	IC Engine: (#11999)	A3	0.510	440.07	Per 1 million Btu input	No	1	1,000	224.44	0.00	0.00	224.44
004412	IC Engine: (#12004)	A3	0.510	440.07	Per 1 million Btu input	No	1	1,000	224.44	0.00	0.00	224.44
004378	IC Engine: (#12023)	A3	0.250	440.07	Per 1 million Btu input	No	1	1,000	110.02	0.00	0.00	110.02
008781	IC Engine: (#12034)	A3	0.510	440.07	Per 1 million Btu input	No	1	1,000	224.44	0.00	0.00	224.44
004391	IC Engine: (#12045)	A3	0.410	440.07	Per 1 million Btu input	No	1	1,000	180.43	0.00	0.00	180.43
004432	IC Engine: (#12068)	A3	0.480	440.07	Per 1 million Btu input	No	1	1,000	211.23	0.00	0.00	211.23
004427	IC Engine: (#12122)	A3	0.510	440.07	Per 1 million Btu input	No	1	1,000	224.44	0.00	0.00	224.44
004400	IC Engine: (#12133)	A3	0.510	440.07	Per 1 million Btu input	No	1	1,000	224.44	0.00	0.00	224.44
004425	IC Engine: (#12166)	A3	0.260	440.07	Per 1 million Btu input	No	1	1,000	114.42	0.00	0.00	114.42
107312	IC Engine: (#9270)	A3	0.240	440.07	Per 1 million Btu input	No	1	1,000	105.62	0.00	0.00	105.62
004306	IC Engine: (#12195)	A3	1.430	440.07	Per 1 million Btu input	No	1	1,000	629.30	0.00	0.00	629.30
004305	IC Engine: (#12205)	A3	1.430	440.07	Per 1 million Btu input	No	1	1,000	629.30	0.00	0.00	629.30
004317	IC Engine: (#8226)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
004316	IC Engine: (#8343)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
004359	IC Engine: (#9553)	A3	0.500	440.07	Per 1 million Btu input	No	1	1,000	220.04	0.00	0.00	220.04
101255	IC Engine: (#9746)	A3	0.500	440.07	Per 1 million Btu input	No	1	1,000	220.04	0.00	0.00	220.04
008183	IC Engine: (#9749)	A3	0.500	440.07	Per 1 million Btu input	No	1	1,000	220.04	0.00	0.00	220.04
101256	IC Engine: (#9818)	A3	0.500	440.07	Per 1 million Btu input	No	1	1,000	220.04	0.00	0.00	220.04
008184	IC Engine: (#10215)	A3	0.500	440.07	Per 1 million Btu input	No	1	1,000	220.04	0.00	0.00	220.04
005307	IC Engine: (#10367)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
101257	IC Engine: (#10370)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
004307	IC Engine: (#10939)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
008762	IC Engine: (#11010)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
004314	IC Engine: (#11025)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03
008763	IC Engine: (#11033)	A3	0.450	440.07	Per 1 million Btu input	No	1	1,000	198.03	0.00	0.00	198.03

004406	IC Engine: (#11045)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004331	IC Engine: (#11143)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
008185	IC Engine: (#11230)	A3	0.380	440.07	Per 1 million Btu input	No	1	1.000	167.23	0.00	0.00	167.23
005305	IC Engine: (#11310)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
101258	IC Engine: (#11441)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004325	IC Engine: (#11473)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
101259	IC Engine: (#11478)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004338	IC Engine: (#11480)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004336	IC Engine: (#11484)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004367	IC Engine: (#11489)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004368	IC Engine: (#11495)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
008764	IC Engine: (#11499)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004362	IC Engine: (#11502)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004341	IC Engine: (#11504)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004355	IC Engine: (#11505)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004372	IC Engine: (#11511)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
008782	IC Engine: (#11512)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004342	IC Engine: (#11513)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004364	IC Engine: (#11521)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004351	IC Engine: (#11523)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004339	IC Engine: (#11529)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004354	IC Engine: (#11538)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004310	IC Engine: (#11546)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004308	IC Engine: (#11549)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004360	IC Engine: (#11550)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
005310	IC Engine: (#11558)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03

004312	IC Engine: (#11591)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004402	IC Engine: (#11615)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004319	IC Engine: (#11627)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
005304	IC Engine: (#11628)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004344	IC Engine: (#11667)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004343	IC Engine: (#11695)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004358	IC Engine: (#11697)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004348	IC Engine: (#11698)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
008998	IC Engine: (#11712)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004315	IC Engine: (#11763)	A3	0.380	440.07	Per 1 million Btu input	No	1	1.000	167.23	0.00	0.00	167.23
008783	IC Engine: (#11830)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004323	IC Engine: (#11848)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
101260	IC Engine: (#11849)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004320	IC Engine: (#11927)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
101261	IC Engine: (#11964)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
005308	IC Engine: (#11973)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
008766	IC Engine: (#11975)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
004324	IC Engine: (#11983)	A3	0.500	440.07	Per 1 million Btu input	No	1	1.000	220.04	0.00	0.00	220.04
008767	IC Engine: (#12066)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
008784	IC Engine: (#12145)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004356	IC Engine: (#12151)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004357	IC Engine: (#12153)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004371	IC Engine: (#12155)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004350	IC Engine: (#12158)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004345	IC Engine: (#12159)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63
004353	IC Engine: (#12161)	A3	0.390	440.07	Per 1 million Btu input	No	1	1.000	171.63	0.00	0.00	171.63

005306	IC Engine: (#12168)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
005309	IC Engine: (#12169)	A3	0.450	440.07	Per 1 million Btu input	No	1	1.000	198.03	0.00	0.00	198.03
004434	IC Engine: (#19766)	A3	5.500	440.07	Per 1 million Btu input	No	1	1.000	2,420.39	0.00	0.00	2,420.39
004435	IC Engine: (#12163)	A3	2.740	440.07	Per 1 million Btu input	No	1	1.000	1,205.79	0.00	0.00	1,205.79
<b>Device Fee Sub-Totals =</b>									<b>\$27,513.18</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$27,513.18</b>
<b>Device Fee Total =</b>												<b>\$27,513.18</b>

**Permit Fee**

Fee Based on Devices

27,513.18

**Fee Statement Grand Total = \$27,513**

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 Equipment List**



**Wednesday, May 13, 2009**  
**Santa Barbara County APCD – Equipment List**

PT-70/Reeval 08039 R7 / FID: 04214 Orcutt Hill IC Engines / SSID: 02667

**A PERMITTED EQUIPMENT**

**1 Unmodified Rich-Burn Non-Cyclic ICE**

**1.1 IC Engine: (#7439)**

<b>Device ID #</b>	<b>004416</b>	<b>Device Name</b>	<b>IC Engine: (#7439)</b>
<i>Rated Heat Input</i>	0.480 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	7439
<i>Model</i>	HEB	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #17a		
<i>Device Description</i>	Capacity limits: nameplate		

**1.2 IC Engine: (#8488)**

<b>Device ID #</b>	<b>004390</b>	<b>Device Name</b>	<b>IC Engine: (#8488)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8488
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Dome #2		
<i>Device Description</i>	Capacity limits: nameplate		

**1.3 IC Engine: (#8767)**

<b>Device ID #</b>	<b>004388</b>	<b>Device Name</b>	<b>IC Engine: (#8767)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8767
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #5		
<i>Device Description</i>	Capacity limits: nameplate		

**1.4 IC Engine: (#8785)**

<b>Device ID #</b>	<b>004430</b>	<b>Device Name</b>	<b>IC Engine: (#8785)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8785
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Squires #39		
<i>Device Description</i>	Capacity limits: nameplate		

**1.5 IC Engine: (#8826)**

<b>Device ID #</b>	<b>004322</b>	<b>Device Name</b>	<b>IC Engine: (#8826)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8826
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Squires #14		
<i>Device Description</i>	Capacity limits: nameplate		

**1.6 IC Engine: (#8864)**

<b>Device ID #</b>	<b>004411</b>	<b>Device Name</b>	<b>IC Engine: (#8864)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8864
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #96		
<i>Device Description</i>	Capacity limits: nameplate		

**1.7 IC Engine: (#8874)**

<b>Device ID #</b>	<b>004399</b>	<b>Device Name</b>	<b>IC Engine: (#8874)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8874
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #15		
<i>Device Description</i>	Capacity limits: nameplate		

**1.8 IC Engine: (#8967)**

<b>Device ID #</b>	<b>004376</b>	<b>Device Name</b>	<b>IC Engine: (#8967)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8967
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Hartnell #14/Newlove 94		
<i>Device Description</i>	Capacity limits: nameplate		

**1.9 IC Engine: (#8970)**

<b>Device ID #</b>	<b>004403</b>	<b>Device Name</b>	<b>IC Engine: (#8970)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8970
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Tank VRS		
<i>Device Description</i>	Capacity limits: nameplate		

**1.10 IC Engine: (#8971)**

<b>Device ID #</b>	<b>005865</b>	<b>Device Name</b>	<b>IC Engine: (#8971)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8971
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #42		
<i>Device Description</i>	Capacity limits: nameplate		

**1.11 IC Engine: (#8987)**

<b>Device ID #</b>	<b>004393</b>	<b>Device Name</b>	<b>IC Engine: (#8987)</b>
<i>Rated Heat Input</i>	0.350 MMBtu/Hour	<i>Physical Size</i>	32.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8987
<i>Model</i>	403	<i>Serial Number</i>	
<i>Location Note</i>	Graciosa #1		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.12 IC Engine: (#8996)**

<b>Device ID #</b>	<b>006473</b>	<b>Device Name</b>	<b>IC Engine: (#8996)</b>
<i>Rated Heat Input</i>	0.350 MMBtu/Hour	<i>Physical Size</i>	32.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	8996
<i>Model</i>	403	<i>Serial Number</i>	
<i>Location Note</i>	Squires #11		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.13 IC Engine: (#9228)**

<b>Device ID #</b>	<b>004397</b>	<b>Device Name</b>	<b>IC Engine: (#9228)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9228
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #22		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.14 IC Engine: (#9232)**

<b>Device ID #</b>	<b>004417</b>	<b>Device Name</b>	<b>IC Engine: (#9232)</b>
<i>Rated Heat Input</i>	0.350 MMBtu/Hour	<i>Physical Size</i>	32.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9232
<i>Model</i>	403	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.15 IC Engine: (#9268)**

<b>Device ID #</b>	<b>004421</b>	<b>Device Name</b>	<b>IC Engine: (#9268)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9268
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 67-4		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.16 IC Engine: (#9277)**

<b>Device ID #</b>	<b>004429</b>	<b>Device Name</b>	<b>IC Engine: (#9277)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9277
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Squires #39 1		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.17 IC Engine: (#9300)**

<b>Device ID #</b>	<b>004383</b>	<b>Device Name</b>	<b>IC Engine: (#9300)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9300
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #1		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel: field nat gas Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.18 IC Engine: (#9534)**

<b>Device ID #</b>	<b>004394</b>	<b>Device Name</b>	<b>IC Engine: (#9534)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9534
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Graciosa #10		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.19 IC Engine: (#9602)**

<b>Device ID #</b>	<b>101250</b>	<b>Device Name</b>	<b>IC Engine: (#9602)</b>
<i>Rated Heat Input</i>	0.350 MMBtu/Hour	<i>Physical Size</i>	32.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9602
<i>Model</i>	403	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.20 IC Engine: (#9603)**

<b>Device ID #</b>	<b>004365</b>	<b>Device Name</b>	<b>IC Engine: (#9603)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9603
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Hartnell #8		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.21 IC Engine: (#9748)**

<b>Device ID #</b>	<b>004404</b>	<b>Device Name</b>	<b>IC Engine: (#9748)</b>
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Leroi	<i>Operator ID</i>	9748
<i>Model</i>	226	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #42/#94		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.22 IC Engine: (#9904)**

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<b>Device ID #</b>	<b>004377</b>	<b>Device Name</b>	<b>IC Engine: (#9904)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	9904
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Jacket Water Fan #3		
<i>Device Description</i>	Engine use: Fan Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.23 IC Engine: (#9994)**

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<b>Device ID #</b>	<b>101251</b>	<b>Device Name</b>	<b>IC Engine: (#9994)</b>
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Leroi	<i>Operator ID</i>	9994
<i>Model</i>	226	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.24 IC Engine: (#10373)**

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<b>Device ID #</b>	<b>101252</b>	<b>Device Name</b>	<b>IC Engine: (#10373)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10373
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.25 IC Engine: (#10498)**

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<b>Device ID #</b>	<b>004381</b>	<b>Device Name</b>	<b>IC Engine: (#10498)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10498
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 42 Trans #2		
<i>Device Description</i>	Engine use: Trans Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.26 IC Engine: (#10757)**

<b>Device ID #</b>	<b>004420</b>	<b>Device Name</b>	<b>IC Engine: (#10757)</b>
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Leroi	<i>Operator ID</i>	10757
<i>Model</i>	226	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #7		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.27 IC Engine: (#10775)**

<b>Device ID #</b>	<b>004386</b>	<b>Device Name</b>	<b>IC Engine: (#10775)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10775
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #7		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.28 IC Engine: (#10786)**

<b>Device ID #</b>	<b>004392</b>	<b>Device Name</b>	<b>IC Engine: (#10786)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10786
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Dome #5		
<i>Device Description</i>	Engine use: Well Pump On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.29 IC Engine: (#10905)**

<b>Device ID #</b>	<b>004413</b>	<b>Device Name</b>	<b>IC Engine: (#10905)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10905
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #36		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.30 IC Engine: (#10923)**

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<b>Device ID #</b>	<b>004311</b>	<b>Device Name</b>	<b>IC Engine: (#10923)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	10923
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #65		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.31 IC Engine: (#10986)**

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<b>Device ID #</b>	<b>004379</b>	<b>Device Name</b>	<b>IC Engine: (#10986)</b>
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Leroi	<i>Operator ID</i>	10986
<i>Model</i>	226	<i>Serial Number</i>	
<i>Location Note</i>	Air Compressor		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.32 IC Engine: (#11105)**

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<b>Device ID #</b>	<b>004419</b>	<b>Device Name</b>	<b>IC Engine: (#11105)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11105
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #96		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.33 IC Engine: (#11285)**

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<b>Device ID #</b>	<b>101253</b>	<b>Device Name</b>	<b>IC Engine: (#11285)</b>
<i>Rated Heat Input</i>	0.210 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Leroi	<i>Operator ID</i>	11285
<i>Model</i>	226	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.34 IC Engine: (#11330)**

<b>Device ID #</b>	<b>004401</b>	<b>Device Name</b>	<b>IC Engine: (#11330)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11330
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #20		
<i>Device Description</i>	Engine use: Compressor Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.35 IC Engine: (#11386)**

<b>Device ID #</b>	<b>008779</b>	<b>Device Name</b>	<b>IC Engine: (#11386)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11386
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #82		
<i>Device Description</i>	Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.36 IC Engine: (#11643)**

<b>Device ID #</b>	<b>004423</b>	<b>Device Name</b>	<b>IC Engine: (#11643)</b>
<i>Rated Heat Input</i>	0.350 MMBtu/Hour	<i>Physical Size</i>	32.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11643
<i>Model</i>	403	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.37 IC Engine: (#11609)**

<b>Device ID #</b>	<b>004418</b>	<b>Device Name</b>	<b>IC Engine: (#11609)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11609
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #23		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.38 IC Engine: (#11792)**

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<b>Device ID #</b>	<b>004408</b>	<b>Device Name</b>	<b>IC Engine: (#11792)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11792
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.39 IC Engine: (#11841)**

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<b>Device ID #</b>	<b>004398</b>	<b>Device Name</b>	<b>IC Engine: (#11841)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11841
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Hartnell #8		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.40 IC Engine: (#11842)**

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<b>Device ID #</b>	<b>004384</b>	<b>Device Name</b>	<b>IC Engine: (#11842)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11842
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #22		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.41 IC Engine: (#11858)**

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<b>Device ID #</b>	<b>101254</b>	<b>Device Name</b>	<b>IC Engine: (#11858)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11858
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.42 IC Engine: (#11883)**

<b>Device ID #</b>	<b>008996</b>	<b>Device Name</b>	<b>IC Engine: (#11883)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11883
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.43 IC Engine: (#11889)**

<b>Device ID #</b>	<b>008780</b>	<b>Device Name</b>	<b>IC Engine: (#11889)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11889
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #3		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.44 IC Engine: (#11891)**

<b>Device ID #</b>	<b>004385</b>	<b>Device Name</b>	<b>IC Engine: (#11891)</b>
<i>Rated Heat Input</i>	0.250 MMBtu/Hour	<i>Physical Size</i>	28.00 Brake Horsepower
<i>Manufacturer</i>	International	<i>Operator ID</i>	11891
<i>Model</i>	153	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #23		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.45 IC Engine: (#11931)**

<b>Device ID #</b>	<b>004382</b>	<b>Device Name</b>	<b>IC Engine: (#11931)</b>
<i>Rated Heat Input</i>	0.480 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11931
<i>Model</i>	HEB	<i>Serial Number</i>	
<i>Location Note</i>	Squires #20		
<i>Device Description</i>	Engine use: Shipping Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.46 IC Engine: (#11971)**

<b>Device ID #</b>	<b>004380</b>	<b>Device Name</b>	<b>IC Engine: (#11971)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11971
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Newlove 42 Trans #1		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.47 IC Engine: (#11999)**

<b>Device ID #</b>	<b>004396</b>	<b>Device Name</b>	<b>IC Engine: (#11999)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11999
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #29		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.48 IC Engine: (#12004)**

<b>Device ID #</b>	<b>004412</b>	<b>Device Name</b>	<b>IC Engine: (#12004)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12004
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #2		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.49 IC Engine: (#12023)**

<b>Device ID #</b>	<b>004378</b>	<b>Device Name</b>	<b>IC Engine: (#12023)</b>
<i>Rated Heat Input</i>	0.250 MMBtu/Hour	<i>Physical Size</i>	28.00 Brake Horsepower
<i>Manufacturer</i>	International	<i>Operator ID</i>	12023
<i>Model</i>	153	<i>Serial Number</i>	
<i>Location Note</i>	Aero Vap Fin Fan		
<i>Device Description</i>	Engine use: Aero Vap Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**1.50 IC Engine: (#12034)**

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<b>Device ID #</b>	<b>008781</b>	<b>Device Name</b>	<b>IC Engine: (#12034)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12034
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #17A		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.51 IC Engine: (#12045)**

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<b>Device ID #</b>	<b>004391</b>	<b>Device Name</b>	<b>IC Engine: (#12045)</b>
<i>Rated Heat Input</i>	0.410 MMBtu/Hour	<i>Physical Size</i>	39.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12045
<i>Model</i>	425	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #110		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.52 IC Engine: (#12068)**

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<b>Device ID #</b>	<b>004432</b>	<b>Device Name</b>	<b>IC Engine: (#12068)</b>
<i>Rated Heat Input</i>	0.480 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12068
<i>Model</i>	HEB	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #19		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**1.53 IC Engine: (#12122)**

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<b>Device ID #</b>	<b>004427</b>	<b>Device Name</b>	<b>IC Engine: (#12122)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12122
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Squires #28		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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### 1.54 IC Engine:(#12133)

<b>Device ID #</b>	<b>004400</b>	<b>Device Name</b>	<b>IC Engine:(#12133)</b>
<i>Rated Heat Input</i>	0.510 MMBtu/Hour	<i>Physical Size</i>	46.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12133
<i>Model</i>	605	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #22		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 1.55 IC Engine: (#12166)

<b>Device ID #</b>	<b>004425</b>	<b>Device Name</b>	<b>IC Engine: (#12166)</b>
<i>Rated Heat Input</i>	0.260 MMBtu/Hour	<i>Physical Size</i>	25.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12166
<i>Model</i>	283	<i>Serial Number</i>	
<i>Location Note</i>	Squires #40		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 1.56 IC Engine (#9270)

<b>Device ID #</b>	<b>107312</b>	<b>Device Name</b>	<b>IC Engine (#9270)</b>
<i>Rated Heat Input</i>	0.240 MMBtu/Hour	<i>Physical Size</i>	23.00 Brake Horsepower
<i>Manufacturer</i>	Le Roi	<i>Operator ID</i>	9270
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Well Pump Capacity limits: nameplate On line: 1000 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

## 2 Limited Use Rich-Burn Non-Cyclic Uncontrolled ICE

### 2.1 IC Engine: (#12195)

<b>Device ID #</b>	<b>004306</b>	<b>Device Name</b>	<b>IC Engine: (#12195)</b>
<i>Rated Heat Input</i>	1.430 MMBtu/Hour	<i>Physical Size</i>	175.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12195
<i>Model</i>	800T	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Tran 2		
<i>Device Description</i>			

## 2.2 IC Engine: (#12205)

<b>Device ID #</b>	<b>004305</b>	<b>Device Name</b>	<b>IC Engine: (#12205)</b>
<i>Rated Heat Input</i>	1.430 MMBtu/Hour	<i>Physical Size</i>	175.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12205
<i>Model</i>	800T	<i>Serial Number</i>	
<i>Location Note</i>	Pinal Inj		
<i>Device Description</i>			

## 3 Derated Rich-Burn Non-Cyclic ICE

### 3.1 IC Engine: (#8226)

<b>Device ID #</b>	<b>004317</b>	<b>Device Name</b>	<b>IC Engine: (#8226)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	8226
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.98"		

### 3.2 IC Engine: (#8343)

<b>Device ID #</b>	<b>004316</b>	<b>Device Name</b>	<b>IC Engine: (#8343)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	8343
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #2		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.98"		

### 3.3 IC Engine: (#9553)

<b>Device ID #</b>	<b>004359</b>	<b>Device Name</b>	<b>IC Engine: (#9553)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9553
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Squires #38		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

### 3.4 IC Engine: (#9746)

<b>Device ID #</b>	<b>101255</b>	<b>Device Name</b>	<b>IC Engine: (#9746)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9746
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

### 3.5 IC Engine: (#9749)

<b>Device ID #</b>	<b>008183</b>	<b>Device Name</b>	<b>IC Engine: (#9749)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9749
<i>Model</i>	817	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #10		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

### 3.6 IC Engine: (#9818)

<b>Device ID #</b>	<b>101256</b>	<b>Device Name</b>	<b>IC Engine: (#9818)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9818
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

### 3.7 IC Engine: (#10215)

<b>Device ID #</b>	<b>008184</b>	<b>Device Name</b>	<b>IC Engine: (#10215)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	10215
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj #8		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

### 3.8 IC Engine: (#10367)

<b>Device ID #</b>	<b>005307</b>	<b>Device Name</b>	<b>IC Engine: (#10367)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	10367
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #5		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.9 IC Engine: (#10370)

<b>Device ID #</b>	<b>101257</b>	<b>Device Name</b>	<b>IC Engine: (#10370)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	10370
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.10 IC Engine: (#10939)

<b>Device ID #</b>	<b>004307</b>	<b>Device Name</b>	<b>IC Engine: (#10939)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	10939
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.11 IC Engine: (#11010)

<b>Device ID #</b>	<b>008762</b>	<b>Device Name</b>	<b>IC Engine: (#11010)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11010
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Injection #3		
<i>Device Description</i>	Engine use: Cal Coast Inj Capacity limits: Orifice Plate @ 0.98" Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.12 IC Engine: (#11025)

<b>Device ID #</b>	<b>004314</b>	<b>Device Name</b>	<b>IC Engine: (#11025)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11025
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Squires #18		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.13 IC Engine: (#11033)

<b>Device ID #</b>	<b>008763</b>	<b>Device Name</b>	<b>IC Engine: (#11033)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11033
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.14 IC Engine: (#11045)

<b>Device ID #</b>	<b>004406</b>	<b>Device Name</b>	<b>IC Engine: (#11045)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11045
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #68		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.15 IC Engine: (#11143)

<b>Device ID #</b>	<b>004331</b>	<b>Device Name</b>	<b>IC Engine: (#11143)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11143
<i>Model</i>	817	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #10E		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.16 IC Engine: (#11230)

<b>Device ID #</b>	<b>008185</b>	<b>Device Name</b>	<b>IC Engine: (#11230)</b>
<i>Rated Heat Input</i>	0.380 MMBtu/Hour	<i>Physical Size</i>	41.80 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11230
<i>Model</i>	195	<i>Serial Number</i>	
<i>Location Note</i>	Jacket Water Pump 3		
<i>Device Description</i>	Engine use: Fire Pump Capacity limits: Orifice Plate @ 1.65" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.17 IC Engine: (#11310)**

<b>Device ID #</b>	<b>005305</b>	<b>Device Name</b>	<b>IC Engine: (#11310)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11310
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #2		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.18 IC Engine: (#11441)**

<b>Device ID #</b>	<b>101258</b>	<b>Device Name</b>	<b>IC Engine: (#11441)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11441
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.19 IC Engine: (#11473)**

<b>Device ID #</b>	<b>004325</b>	<b>Device Name</b>	<b>IC Engine: (#11473)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11473
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #19		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.20 IC Engine: (#11478)**

<b>Device ID #</b>	<b>101259</b>	<b>Device Name</b>	<b>IC Engine: (#11478)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11478
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.21 IC Engine: (#11480)**

<b>Device ID #</b>	<b>004338</b>	<b>Device Name</b>	<b>IC Engine: (#11480)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11480
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #4		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.22 IC Engine: (#11484)**

<b>Device ID #</b>	<b>004336</b>	<b>Device Name</b>	<b>IC Engine: (#11484)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11484
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Dome #15		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.23 IC Engine: (#11489)**

<b>Device ID #</b>	<b>004367</b>	<b>Device Name</b>	<b>IC Engine: (#11489)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11489
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Squires #23		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.24 IC Engine: (#11495)**

<b>Device ID #</b>	<b>004368</b>	<b>Device Name</b>	<b>IC Engine: (#11495)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11495
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #9D		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.25 IC Engine: (#11499)**

<b>Device ID #</b>	<b>008764</b>	<b>Device Name</b>	<b>IC Engine: (#11499)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11499
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.26 IC Engine: (#11502)**

<b>Device ID #</b>	<b>004362</b>	<b>Device Name</b>	<b>IC Engine: (#11502)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11502
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #2		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.27 IC Engine: (#11504)**

<b>Device ID #</b>	<b>004341</b>	<b>Device Name</b>	<b>IC Engine: (#11504)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11504
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #64		
<i>Device Description</i>	Engine use: Newlove Inj Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.28 IC Engine: (#11505)**

<b>Device ID #</b>	<b>004355</b>	<b>Device Name</b>	<b>IC Engine: (#11505)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11505
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #7B		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.29 IC Engine: (#11511)

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<b>Device ID #</b>	<b>004372</b>	<b>Device Name</b>	<b>IC Engine: (#11511)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11511
<i>Model</i>	817	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #4		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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### 3.30 IC Engine: (#11512)

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<b>Device ID #</b>	<b>008782</b>	<b>Device Name</b>	<b>IC Engine: (#11512)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11512
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Squires #22		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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### 3.31 IC Engine: (#11513)

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<b>Device ID #</b>	<b>004342</b>	<b>Device Name</b>	<b>IC Engine: (#11513)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11513
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Folsom #6		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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### 3.32 IC Engine: (#11521)

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<b>Device ID #</b>	<b>004364</b>	<b>Device Name</b>	<b>IC Engine: (#11521)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11521
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #24		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**3.33 IC Engine: (#11523)**

<b>Device ID #</b>	<b>004351</b>	<b>Device Name</b>	<b>IC Engine: (#11523)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11523
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #52		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.34 IC Engine: (#11529)**

<b>Device ID #</b>	<b>004339</b>	<b>Device Name</b>	<b>IC Engine: (#11529)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11529
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #3		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.35 IC Engine: (#11538)**

<b>Device ID #</b>	<b>004354</b>	<b>Device Name</b>	<b>IC Engine: (#11538)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11538
<i>Model</i>	817	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection #9d		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.36 IC Engine: (#11546)**

<b>Device ID #</b>	<b>004310</b>	<b>Device Name</b>	<b>IC Engine: (#11546)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11546
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #56		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.37 IC Engine: (#11549)**

<b>Device ID #</b>	<b>004308</b>	<b>Device Name</b>	<b>IC Engine: (#11549)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11549
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Pinal Inj Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.38 IC Engine: (#11550)**

<b>Device ID #</b>	<b>004360</b>	<b>Device Name</b>	<b>IC Engine: (#11550)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11550
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #108		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.39 IC Engine: (#11558)**

<b>Device ID #</b>	<b>005310</b>	<b>Device Name</b>	<b>IC Engine: (#11558)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11558
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Pinal Injection #2		
<i>Device Description</i>	Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.40 IC Engine: (#11591)**

<b>Device ID #</b>	<b>004312</b>	<b>Device Name</b>	<b>IC Engine: (#11591)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11591
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove Injection # 6A		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.41 IC Engine: (#11615)

<b>Device ID #</b>	<b>004402</b>	<b>Device Name</b>	<b>IC Engine: (#11615)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11615
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #58		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.42 IC Engine: (#11627)

<b>Device ID #</b>	<b>004319</b>	<b>Device Name</b>	<b>IC Engine: (#11627)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11627
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Newlove Inj Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.43 IC Engine: (#11628)

<b>Device ID #</b>	<b>005304</b>	<b>Device Name</b>	<b>IC Engine: (#11628)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11628
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #1		
<i>Device Description</i>	Engine use: Cal Coast Inj Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.44 IC Engine: (#11667)

<b>Device ID #</b>	<b>004344</b>	<b>Device Name</b>	<b>IC Engine: (#11667)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11667
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #57		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.45 IC Engine: (#11695)**

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<b>Device ID #</b>	<b>004343</b>	<b>Device Name</b>	<b>IC Engine: (#11695)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11695
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #13		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**3.46 IC Engine: (#11697)**

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<b>Device ID #</b>	<b>004358</b>	<b>Device Name</b>	<b>IC Engine: (#11697)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11697
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #73		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**3.47 IC Engine: (#11698)**

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<b>Device ID #</b>	<b>004348</b>	<b>Device Name</b>	<b>IC Engine: (#11698)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11698
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #13		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**3.48 IC Engine: (#11712)**

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<b>Device ID #</b>	<b>008998</b>	<b>Device Name</b>	<b>IC Engine: (#11712)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11712
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Injection Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

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**3.49 IC Engine: (#11763)**

<b>Device ID #</b>	<b>004315</b>	<b>Device Name</b>	<b>IC Engine: (#11763)</b>
<i>Rated Heat Input</i>	0.380 MMBtu/Hour	<i>Physical Size</i>	41.80 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11763
<i>Model</i>	195	<i>Serial Number</i>	
<i>Location Note</i>	Jacket Water Pump 3		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 1.65" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.50 IC Engine: (#11830)**

<b>Device ID #</b>	<b>008783</b>	<b>Device Name</b>	<b>IC Engine: (#11830)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	46.30 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	11830
<i>Model</i>	336	<i>Serial Number</i>	
<i>Location Note</i>	Pinal #31		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 1.30" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.51 IC Engine: (#11848)**

<b>Device ID #</b>	<b>004323</b>	<b>Device Name</b>	<b>IC Engine: (#11848)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11848
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #3		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.52 IC Engine: (#11849)**

<b>Device ID #</b>	<b>101260</b>	<b>Device Name</b>	<b>IC Engine: (#11849)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11849
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.53 IC Engine: (#11927)

<b>Device ID #</b>	<b>004320</b>	<b>Device Name</b>	<b>IC Engine: (#11927)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11927
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>	Folsom #8		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.54 IC Engine: (#11964)

<b>Device ID #</b>	<b>101261</b>	<b>Device Name</b>	<b>IC Engine: (#11964)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11964
<i>Model</i>	140	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.55 IC Engine: (#11973)

<b>Device ID #</b>	<b>005308</b>	<b>Device Name</b>	<b>IC Engine: (#11973)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11973
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #6		
<i>Device Description</i>	Engine use: Cal Coast Inj Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.56 IC Engine: (#11975)

<b>Device ID #</b>	<b>008766</b>	<b>Device Name</b>	<b>IC Engine: (#11975)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11975
<i>Model</i>	817	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.57 IC Engine: (#11983)**

<b>Device ID #</b>	<b>004324</b>	<b>Device Name</b>	<b>IC Engine: (#11983)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11983
<i>Model</i>	145	<i>Serial Number</i>	
<i>Location Note</i>	Hobbs #18		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.58 IC Engine: (#12066)**

<b>Device ID #</b>	<b>008767</b>	<b>Device Name</b>	<b>IC Engine: (#12066)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	12066
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Injection #2		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.59 IC Engine: (#12145)**

<b>Device ID #</b>	<b>008784</b>	<b>Device Name</b>	<b>IC Engine: (#12145)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12145
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #69		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.60 IC Engine: (#12151)**

<b>Device ID #</b>	<b>004356</b>	<b>Device Name</b>	<b>IC Engine: (#12151)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12151
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #69		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.61 IC Engine: (#12153)**

<b>Device ID #</b>	<b>004357</b>	<b>Device Name</b>	<b>IC Engine: (#12153)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12153
<i>Model</i>	HD800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #72		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.62 IC Engine: (#12155)**

<b>Device ID #</b>	<b>004371</b>	<b>Device Name</b>	<b>IC Engine: (#12155)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12155
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.63 IC Engine: (#12158)**

<b>Device ID #</b>	<b>004350</b>	<b>Device Name</b>	<b>IC Engine: (#12158)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12158
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Newlove #27		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**3.64 IC Engine: (#12159)**

<b>Device ID #</b>	<b>004345</b>	<b>Device Name</b>	<b>IC Engine: (#12159)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12159
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Dome #7		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.65 IC Engine: (#12161)

<b>Device ID #</b>	<b>004353</b>	<b>Device Name</b>	<b>IC Engine: (#12161)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12161
<i>Model</i>	800	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast #21		
<i>Device Description</i>	Engine use: Well Pump Capacity limits: Orifice Plate @ 0.85" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.66 IC Engine: (#12168)

<b>Device ID #</b>	<b>005306</b>	<b>Device Name</b>	<b>IC Engine: (#12168)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	12168
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #3		
<i>Device Description</i>	Engine use: Out of Service Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

### 3.67 IC Engine: (#12169)

<b>Device ID #</b>	<b>005309</b>	<b>Device Name</b>	<b>IC Engine: (#12169)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	12169
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Location Note</i>	Cal Coast Inj. #8		
<i>Device Description</i>	Engine use: Cal Coast Inj Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

## 4 Limited Use Lean-Burn, Two-Stroke, Non-Cyclic ICE

### 4.1 IC Engine: (#19766)

<b>Device ID #</b>	<b>004434</b>	<b>Device Name</b>	<b>IC Engine: (#19766)</b>
<i>Rated Heat Input</i>	5.500 MMBtu/Hour	<i>Physical Size</i>	400.00 Brake Horsepower
<i>Manufacturer</i>	Clark	<i>Operator ID</i>	19766
<i>Model</i>	RA-4	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Capacity limits: nameplate		

**5 Controlled Rich-Burn Non-Cyclic ICE Subj to Rule 333**

**5.1 IC Engine: (#12163)**

<b>Device ID #</b>	<b>004435</b>	<b>Device Name</b>	<b>IC Engine: (#12163)</b>
<i>Rated Heat Input</i>	2.740 MMBtu/Hour	<i>Physical Size</i>	301.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	12163
<i>Model</i>	2475	<i>Serial Number</i>	
<i>Location Note</i>	Fox Injection #1		
<i>Device Description</i>	Capacity limits: nameplate		

**E DE-PERMITTED EQUIPMENT**

**1 IC Engine: (#7405)**

<b>Device ID #</b>	<b>004318</b>	<b>Device Name</b>	<b>IC Engine: (#7405)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	7405
<i>Model</i>	140	<i>Serial Number</i>	
<i>Depermitted Device Description</i>	Capacity limits: Orifice Plate @ 0.98"		

**2 IC Engine: (#9840)**

<b>Device ID #</b>	<b>004366</b>	<b>Device Name</b>	<b>IC Engine: (#9840)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9840
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

**3 IC Engine: (#9851)**

<b>Device ID #</b>	<b>004329</b>	<b>Device Name</b>	<b>IC Engine: (#9851)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	9851
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted Device Description</i>	Capacity limits: Orifice Plate @ 0.922"		

**4 IC Engine: (#10389)**

<b>Device ID #</b>	<b>004309</b>	<b>Device Name</b>	<b>IC Engine: (#10389)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	10389
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Out of Service		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.98" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**5 IC Engine: (#11137)**

<b>Device ID #</b>	<b>004321</b>	<b>Device Name</b>	<b>IC Engine: (#11137)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11137
<i>Model</i>	140	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Capacity limits: Orifice Plate @ 0.98"		
<i>Description</i>	On line: 8,760 hr/yr Fuel: field nat gas fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**6 IC Engine: (#11419)**

<b>Device ID #</b>	<b>004337</b>	<b>Device Name</b>	<b>IC Engine: (#11419)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11419
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Capacity limits: Orifice Plate @ 0.922"		
<i>Description</i>	On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**7 IC Engine: (#11483)**

<b>Device ID #</b>	<b>004424</b>	<b>Device Name</b>	<b>IC Engine: (#11483)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11483
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Newlove Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922" On line: 8,760 hr/yr Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**8 IC Engine: (#11491)**

<b>Device ID #</b>	<b>004352</b>	<b>Device Name</b>	<b>IC Engine: (#11491)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11491
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Capacity limits: Orifice Plate @ 0.922"		
<i>Description</i>	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**9 IC Engine: (#11515)**

<b>Device ID #</b>	<b>004326</b>	<b>Device Name</b>	<b>IC Engine: (#11515)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11515
<i>Model</i>	140	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Well Pump		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.98"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**10 IC Engine: (#11539)**

<b>Device ID #</b>	<b>004370</b>	<b>Device Name</b>	<b>IC Engine: (#11539)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11539
<i>Model</i>	817	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Out of Service		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**11 IC Engine: (#11552)**

<b>Device ID #</b>	<b>004361</b>	<b>Device Name</b>	<b>IC Engine: (#11552)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11552
<i>Model</i>	817	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Capacity limits: Orifice Plate @ 0.922"		
<i>Description</i>	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**12 IC Engine: (#11554)**

<b>Device ID #</b>	<b>004334</b>	<b>Device Name</b>	<b>IC Engine: (#11554)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11554
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Out of Service		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**13 IC Engine: (#11688)**

<b>Device ID #</b>	<b>004340</b>	<b>Device Name</b>	<b>IC Engine: (#11688)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11688
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Well Pump		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**14 IC Engine: (#11699)**

<b>Device ID #</b>	<b>004363</b>	<b>Device Name</b>	<b>IC Engine: (#11699)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11699
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Newlove Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**15 IC Engine: (#11721)**

<b>Device ID #</b>	<b>008765</b>	<b>Device Name</b>	<b>IC Engine: (#11721)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.60 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11721
<i>Model</i>	WAK	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Pinal Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.98"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**16 IC Engine: (#11961)**

<b>Device ID #</b>	<b>004349</b>	<b>Device Name</b>	<b>IC Engine: (#11961)</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11961
<i>Model</i>	140	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Newlove Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.98"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**17 IC Engine: (#11979)**

<b>Device ID #</b>	<b>004335</b>	<b>Device Name</b>	<b>IC Engine: (#11979)</b>
<i>Rated Heat Input</i>	0.500 MMBtu/Hour	<i>Physical Size</i>	49.50 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	11979
<i>Model</i>	145	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Newlove Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.922"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**18 IC Engine: (#12146)**

<b>Device ID #</b>	<b>009881</b>	<b>Device Name</b>	<b>IC Engine: (#12146)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12146
<i>Model</i>	800	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Out of Service		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.85"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

**19 IC Engine: (#12150)**

<b>Device ID #</b>	<b>004330</b>	<b>Device Name</b>	<b>IC Engine: (#12150)</b>
<i>Rated Heat Input</i>	0.390 MMBtu/Hour	<i>Physical Size</i>	48.00 Brake Horsepower
<i>Manufacturer</i>	Minneapolis Moline	<i>Operator ID</i>	12150
<i>Model</i>	800	<i>Serial Number</i>	
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device</i>	Engine use: Newlove Inj		
<i>Description</i>	Capacity limits: Orifice Plate @ 0.85"		
	On line: 8,760 hr/yr		
	Fuel parameters: Fuel HHV: 1,350 Btu/scf for NG, sulfur: % by vol: 0.0796		

## 10.5 APCD Response to Comments

1. Section 3.5.2 – The description of NOV 8396 states that equipment was operated and air contaminants were emitted through circumvention. The engine was never operated, no air contaminants were emitted. The incorrect tag was placed on an engine, it was never operated. Please delete the words *operating*, and *emitting air contaminants* from the description. The statement is false.

*APCD: Change not made. The language in the permit is consistent with the language in the Notice of violation. Note that the word “operating” does not exist in the description on NOV 8396 in Section 3.5.2.*

2. Section 4.4.2. - There are not individual fuel meters for each engine, the fuel to the field is measured through master meters, and fuel to individual engines is based on the hours of engine operation.

*APCD: Section updated to reflect current fuel use monitoring procedures.*

3. The following two engines are no longer in service at Orcutt Hill:  
UP 11688 APCD Device Number 004340  
UP 11554 APCD Device Number 004334

*APCD: Deletions made as requested.*

4. Permit Condition 9.C.3 – This new permit condition is work intensive and onerous. Most of BreitBurn’s orifice plates are sized smaller than required. This can be confirmed by the APCD inspections that are conducted quarterly. There are many engines that have orifice plates that are sized smaller than necessary and a slightly degraded orifice plate would not increase the horse power above 50. BreitBurn Energy is requesting that the District discuss this condition with them to agree on a reasonable solution.

*APCD: This condition was discussed with BreitBurn’s agent and has been revised to allow flexibility in the number of orifice plates inspected per quarter, provided all orifice plates on each engine are inspected in each calendar year period.*

5. The following sections of the permit need to be revised to reflect the actual number of ICE’s in the field:  
Section 1.2.1 -- *Done*  
Section 1.3 -- *Done*  
Section 2.1.1 – *The number 56 in this section is correct. No change made.*  
Section 2.1.3 - *Done*  
Section 4.2 -- *Done*  
Table 5.1-1 through 4 -- *Done*  
Fee Statement -- *Done*  
Section 10.4 -- *Done*



## 10.3 IDS Database Emission Tables

Table 10.3-1  
Permit to Operate 8039-R7  
BreitBurn Energy Orcutt Hill Internal Combustion Engines  
Net Emissions Increase

### A. HOURLY (lb/hr)

Equipment	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
LeRoi Engine (ID# 107312)	0.46	0.02	0.39	0.02	0.00	0.00
	<b>0.46</b>	<b>0.02</b>	<b>0.39</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>

### B. DAILY (lb/day)

Equipment	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
LeRoi Engine (ID# 107312)	11.04	0.60	9.27	0.58	0.06	0.06
	<b>11.04</b>	<b>0.60</b>	<b>9.27</b>	<b>0.58</b>	<b>0.06</b>	<b>0.06</b>

### C. QUARTERLY (tpq)

Equipment	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
LeRoi Engine (ID# 107312)	0.23	0.01	0.19	0.01	0.00	0.00
	<b>0.23</b>	<b>0.01</b>	<b>0.19</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>

### D. ANNUAL (tpy)

Equipment	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
LeRoi Engine (ID# 107312)	0.23	0.01	0.19	0.01	0.00	0.00
	<b>0.23</b>	<b>0.01</b>	<b>0.19</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>

