

## Proposed

### Part 70 Minor Permit Modification 12284

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EQUIPMENT OWNER/OPERATOR:

E & B Natural Resources Mgt. Corp.

300000

EQUIPMENT LOCATION:

South Cuyama Unit, located in the South Cuyama area of Santa Barbara County

STATIONARY SOURCE/FACILITY:

E & B - South Cuyama  
South Cuyama Internal Combustion Engines

SSID: 01073

FID: 08916

EQUIPMENT DESCRIPTION:

The equipment subject to this permit is listed in the table at the end of this permit.

PROJECT/PROCESS DESCRIPTION:

Oil, water, and gas are produced from oil and gas wells at the South Cuyama Unit. The production from these wells is piped to one of several tank farms. Liquids are sent to the wash tanks with the crude going to the LACT tanks and the water going to the wastewater gathering system. Any entrained gas in the crude oil is captured by the vapor recovery system. A complete process description for this facility can be found in PTO 8010-R5 issued June 14, 2005. This permit authorizes the operation of Omnitek Engineering Corp. Carburetion and Ignition Management System air/fuel ratio controllers (AFRC) on four South Cuyama Unit IC engines: APCD Dev Nos 006392 (E&B ID# W-12), 006393 (E&B ID# W-11), 006395 (E&B ID# W-42) and 006396 (E&B ID# B-5). These engines are identified as APCD Engine ID Numbers 18, 19, 21, and 22 respectively in PTO 8010-R5. The IC engines subject to this permitting action are used in waste water injection on a primary and standby basis, and are already equipped with catalysts.

CONDITIONS:

**9.A Standard Administrative Conditions**

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

**A.1 Compliance with Permit Conditions**

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

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

**A.3 Compliance Plan.**

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

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- (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.6 **Payment of Fees.** The permittee shall reimburse the APCD for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the APCD and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: APCD Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6*]
- A.7 **Prompt Reporting of Deviations:** The permittee shall submit a written report to the APCD documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to APCD in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [APCD Rule 1303.D.1, 40 CFR 70.6(a) (3)]
- A.8 **Reporting Requirements/Compliance Certification:** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on APCD forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be

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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.

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

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

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

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

**9.B Generic Conditions**

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. These conditions are federally-enforceable. Compliance with these requirements is discussed in Section 3. 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.

The permittee shall determine compliance with this Rule in accordance with the monitoring and recordkeeping procedures in Condition 9.C.15. [*Re: APCD Rule 302*].

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- B.3 **Nuisance (Rule 303):** No pollutant emissions from any equipment at this facility shall create nuisance conditions. No operations shall endanger health, safety or comfort, nor shall they damage any property or business. [*Re: APCD Rule 303*]
- B.4 **Particulate Matter – Northern Zone (Rule 304):** The permittee shall not discharge into the atmosphere, from any source, particulate matter in excess 0.3 grain per cubic foot of gas at standard conditions. [*Re: APCD Rule 304*]
- B.5 **Specific Contaminants (Rule 309):** The permittee shall not discharge into the atmosphere from any single source sulfur compounds, carbon monoxide and combustion contaminants in excess of the standards listed in Sections A and G of Rule 309. [*Re: APCD Rule 309.A.2.b, 309.A.1*].
- B.6 **Sulfur Content of Fuels (Rule 311):** The permittee shall not burn fuels with a sulfur content in excess of 0.5% (by weight) for liquid fuels and 796 ppmvd or 50 gr/100 scf (calculated as H<sub>2</sub>S) for gaseous fuel. Compliance with this condition shall be based on measurements of the fuel gas using Draeger tubes, ASTM, or other APCD-approved methods and diesel fuel billing records or other data showing the certified sulfur content for each shipment. [*Re: APCD Rule 311.B*]
- B.7 **Emergency Episode Plans (Rule 603):** During emergency episodes, the permittee shall implement their APCD approved Emergency Episode Plan. [*Reference APCD Rule 603*]
- B.8 **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.9 **Oil and Natural Gas Production MACT:** The permittee shall comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Oil and Natural Gas Production and Natural Gas Transmission and Storage (promulgated June 17, 1999). At a minimum, the permittee shall maintain records in accordance with 40 CFR Part 63, Subpart A, Section 63.10 (b) (1) and (3). Full compliance shall be achieved by no later than June 17, 2002. [*Re: 40 CFR 63, Subpart HH*]

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B.10 **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 Equipment Specific Conditions**

The conditions below supersede the same numbered condition in PTO/Part-70 Permit 8010-R5. All other permit conditions in PTO/Part-70 Permit 8010-R5 remain in full force.

9.C.2 **Controlled Burn Internal Combustion Engines:** The following equipment are included in this emissions unit category:

<b>Eq No.</b>	<b>Equipment</b>
14 through 23	Controlled gas-fired internal combustion engines rated greater than 50 hp and subject to Rule 333 emission limits.

(a) Emission Limits: Emission from engines 14 through 23 shall not exceed the values listed in Table 5.1. In addition, the following specific limits apply:

- (i) IC Engines 14 through 23 – The permittee shall meet APCD Rule 333.D.1 NO<sub>x</sub>, ROC and CO ppm<sub>v</sub> limits, or the oxides of nitrogen (NO<sub>x</sub>) shall be reduced by at least 90-percent of the uncontrolled emissions across the control device. The Rule 333 emission limitations shall be verified through biennial source testing and Rule 333 quarterly inspections.

The emission limits stipulated above do not supersede any other limits that may be specified for the equipment by any applicable requirement promulgated by the USEPA or the APCD during the life of this permit. [Re: *APCD Rule 333, APCD ATCs 9129, 9076, 8910, 8870*]

(b) Operational Limits: The following operational limits apply to engines 14 through 23:

- (i) *Hourly Heat Input:* Maximum heat input (MMBtu/hour) to the internal combustion engines listed in this condition is restricted to the values listed in the “Use per Hour” column of Table 5.1-1.
- (ii) *Annual Heat Input:* Maximum annual heat input (MMBtu/year) to the internal combustion engines listed in this condition is restricted to the values listed in the “Use per Year” column of Table 5.1-1.

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- (iii) *Catalyst Replacement:* The permittee shall inform the APCD verbally within 14-days whenever the catalyst for any of the catalyst controlled engines (APCD ID #14 – 23) has been replaced. This notification shall be followed up with a written report submitted to the APCD within five-days. Such replacement is only allowed in accordance with APCD Rules and Regulations.

Within 3-days of replacing a catalyst, a portable NO<sub>x</sub> analyzer shall be used to take NO<sub>x</sub> and oxygen emission readings to determine compliance with this permit. An instrument reading in excess of the limits in Condition 9.C.2.(a).(i) shall not be considered a violation so long as the problem is corrected and a follow-up source test that demonstrates compliance is conducted within 30-days of the initial portable analyzer inspection. The requirements specified in Condition 9.C.14 shall apply to any source test triggered by this condition. A log shall be maintained detailing the portable analyzer readings, a description of the corrective actions taken, and a determination of whether or not the engine is in compliance. The initials of the person making the measurement shall be recorded in the log.

- (iv) *ERCs: Disposition of the Clark #10 and Clark #12 HRA-6T Engines (PTO 8010-R4 ID #26 and #28)* - To ensure that the ERCs created by replacement of the gas-fired engine on the Clark #12 compressor-engine unit remain permanent and enforceable, the permittee shall ensure that the gas-fired engines on the Clark #10 and Clark #12 HRA-6T compressor-engine units are permanently disabled to prevent any future use. This provision does not preclude the permittee from salvaging non-engine block components for subsequent use as replacement parts in the Clark #11 HRA-6T engine.
- (1) The permittee shall permanently remove all connecting rods, pistons, and piston rings associated with the power cylinders on the Clark #12 HRA-6T engine. The permittee shall permanently remove the fuel injection valves, fuel gas headers, exhaust manifold, and power cylinder jacket water lines on the Clark #12 HRA-6T engine.
  - (2) The permittee shall not use or offer for sale the engine block from the Clark #12 HRA-6T engine within the South Central Coast Air Basin. The permittee shall make available to the APCD or its agent access to verify that the engine block has been permanently disabled. In the event that the permittee sells the Clark #12 engine block to a business outside of the South Central Coast Air Basin, the permittee shall provide signed documentation verifying the date of sale, business sold to, contact name and phone number and the location the engine block will be transported to for future operation.
- (v) *Engine Identification:* The Clark #9, Clark #10, and Clark #12 HRA-6T engines shall have unique identification numbers permanently and legibly liquid welded or

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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.

- (vi) *Emission Controls.* Each engine listed in Table 1 below shall be equipped with an air/fuel ratio controller compatible with the existing Non-Selective Catalytic Reduction (NSCR) control technology to control IC engine exhaust NO<sub>x</sub>, ROC, and CO emissions. NSCR emission controls and associated air/fuel ratio controller shall be used at all times when operating the engine.

APCD Dev No	E&B ID No	Engine Make & Model	Location & Service
006393	W-11	Waukesha F1197	Perkins WW Injection- Primary Service
006392	W-12	Waukesha F1197	Machader WW Injection- Primary Service
006395	W-42	Waukesha F1197	Perkins WW Injection- Standby Service
006396	B-5	Buda 6MO-672	Machader WW Injection- Standby Service

- (a) *Air/Fuel Ratio Controller Display.* The air/fuel ratio controller shall be operated in accordance with manufacturer's specifications and the approved ICE Inspection and Monitoring Plan (see condition 9.C.5) readouts shall be maintained at values determined during SCDP source testing to maintain permitted and Rule 333 compliance.
- (v) *Catalyst Exhaust Oxygen Concentration.* The oxygen concentration in the catalyst exhaust in each engine listed in Table 1 shall not exceed 0.5% by volume.
- (c) Monitoring:
- (i) *Source Testing:* For each engine subject to this condition, the permittee shall perform source testing of air emissions and process parameters consistent with the requirement of the *Source Testing* permit condition below and in accordance with the requirements of Rule 333.G.
- (ii) *Quarterly Monitoring:* The permittee shall perform quarterly NO<sub>x</sub>, CO and O<sub>2</sub> monitoring in accordance with Rule 333 and Condition 9.C.5 below.
- (d) Recordkeeping: The following records (electronic or hard copy) shall be maintained by the permittee and shall be made available to the APCD upon request:
- (i) Written records documenting fuel use on a monthly basis.
- (ii) Written records documenting the ICE operating hours on a monthly basis.

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- (iii) On an annual basis, the high heating value of the gaseous fuel (Btu/scf) shall be measured and recorded.
  - (iv) Fuel meter calibration records, including the meter's calibration procedures.
  - (v) Written ICE operations logs consistent with the requirements of Rule 333.H.
  - (vi) If an operator's tag number is used in lieu of an ICE identification plate, written documentation which references the permittee's unique ICE ID number to a list containing the make, model, rated maximum HP and the corresponding RPM.
  - (vii) A log of all significant activities involving the catalytic converter and air/fuel ratio controller shall be maintained. This log shall include the following: catalyst replacements, A/F ratio oxygen sensor replacements, and catalyst cleanings.
  - (viii) A log that tracks and records daily oxygen sensor voltage, oxygen concentration in % by volume, pre-catalyst exhaust temperature, and engine timing shall be recorded.
- (d) 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 Monitoring/Compliance Verification Reports* condition of this permit. [Re: *APCD Rule 333.F,G, APCD ATC 11129, 9129, 9076, 8910, 8870/PTO 8010*]

9.C.5 **Inspection and Maintenance Plan**: The APCD approved *ICE Inspection and Maintenance Plan*, dated November 1, 2007 and any subsequent updates required by Rule 333.E, shall be followed by the permittee. The Plan may be modified only upon written APCD approval. All required logs of the parameter settings and values documented by this plan shall be readily available on-site for review by APCD inspection staff upon request.

9.C.14 **Source Testing**: The following source testing provisions shall apply to engines 14 through 23, which are subject to Rule 333:

- (a) Engines 14 through 23 the permittee shall perform source testing of air emissions and process parameters listed in Table 9.1 in accordance with the requirements of Rule 333.G. These engines shall be tested biennially in the month of April. An extension of the test deadlines for good cause may be granted upon submittal of a written request from the permittee, and APCD approval.
- (b) *Not-In-Service Engines*: For engines 14 through 23 that are not-in-service (e.g. permitted engines that have not been operating and remain non-operational), at the time a source test is due are subject to the following testing requirements upon return to service:

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- (i) If the engine has not been source tested in more than two years, E&B shall source test the engine in accordance with the approved source test plan within 45-days after the engine returns to service.
- (ii) If less than two years has lapsed since the last source test of the engine, a NO<sub>x</sub> emissions reading using a portable NO<sub>x</sub> analyzer shall be obtained within 15-days after the engine returns to service. This portable reading shall serve as the quarterly reading required under APCD Rule 333.E.4, and all terms of Rule 333.E.4 shall apply.

E&B shall notify the APCD 30-days in advance of the test date if a test is triggered by (i) or (ii) above.

- (c) *ICE Load Limitations:* Testing shall be performed on ICEs in as-found condition at normal operating loads. The source test plan shall identify the proposed source test load and include fuel use data and hours of operation for 2-months prior to the test of each ICE. The fuel use rate during the test shall be within 5% of the average fuel rate over the previous two-month period. [Re: APCD Rule 333.F,G, APCD PTO 9129, 9076, 8910, 8870, 8010, 11129]
- (d) The permittee shall submit to the APCD a Source Test Plan at least thirty (30) calendar days prior to the start of source testing. The plan must be approved by the APCD prior to initiation of source testing. The Source Test Plan shall be prepared consistent with the APCD's "Source Test Procedures Manual" (revised May 1990 and any subsequent revisions). The permittee shall notify the APCD at least fourteen (14) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when APCD personnel may observe the test.
- (e) Source test results shall be submitted to the APCD within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall be used to make compliance determinations with emission rates in Table 5.1 and applicable permit conditions. All APCD costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by APCD Rule 210.
- (f) A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the permittee prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the permittee shall seek and obtain APCD approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. Once the sample probe has been inserted into

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the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the APCD. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the APCD. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without APCD's prior authorization, except in the case of an emergency, shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the APCD by the close of the business day following the scheduled test day.

- (g) Any APCD certified ICE source test result which indicates the applicable Rule 333, or Table 5.1 emission limitations applicable to ICEs 14 through 23 have been exceeded shall constitute a violation of Rule 333 and/or the PTO. The APCD may, at its discretion, extend the deadlines in this condition.

Table 9.1  
IC Engine Source Test Requirements<sup>1 2 3 4</sup>

IC Engine ID#	Pollutant/Parameter	Exhaust Concentration Limit <sup>5</sup> (ppmv @ 15% O <sub>2</sub> )	Max Exhaust Emission Rate <sup>6</sup> (lb/hr)	Other
#14 - #23	NO <sub>x</sub>	50	See Table 5.1-3	Measure
	ROC	250	See Table 5.1-3	Measure
	CO	4,500	See Table 5.1-3	Measure
#14 - #23	Fuel Analysis			Measure
	Fuel Flow, scf/hr			Measure
	Exhaust Oxygen			Measure
	Ignition Timing			Document settings used in source test
#18, 19, 21, 22	AFRC O2 Sensor Concentration	0.5% by volume		Measure and document AFRC display

<sup>1</sup> All emission and process parameter testing shall be performed consistent with APCD protocol.  
<sup>2</sup> All source test values shall be reported at standard conditions (60°F and 1 atm) or as otherwise specified.  
<sup>3</sup> Emission source test shall be performed at the load approved in the source test plan.  
<sup>4</sup> Source testing will establish values for emissions calculations and Rule 333 I&M purposes.  
<sup>5</sup> As specified in Rule 333, referenced to a corrected 15% oxygen concentration in exhaust.  
<sup>6</sup> As specified and referenced in Table 5.1-1 and 5.1-3 of this permit.

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AIR POLLUTION CONTROL OFFICER

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DATE

Attachments:

- Permit Evaluation for Permit to Operate 12284

Notes:

1. When issued, this permit supersedes ATC 12284 issued July 2, 2007.
2. Next Reevaluation Due: April 2008

**Table 5.1-1  
E&B South Cuyama Unit Permit to Operate 8010-R5  
Operating Equipment Description for Internal Combustion Engines (ICEs)**

Facility ID #: 08916

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	Engine Use	E&B ID	Engine Specifications				BHP limited by	BSFC (Btu/bhp-hr)	Heat Input & Usage Data (in MMBtu)			Max. Load Schedule			
					Fuel	% Sulfur by volume	Size	Units			Hourly	Annual	Load	hr day	qtr	year	
<b>Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																	
1	006338	Waukesha 180GBK	compressor	W-40	FNG	0.0796	24.0	hp	nameplate	9,100	0.218	1,913	1.0	1	24	2,190	8,760
<b>Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																	
2	006347	Waukesha 195	spare	W-38	FNG	0.0796	41.8	hp	orifice plate at 1.65 inches	9,100	0.380	3,332	1.0	1	24	2,190	8,760
3	006348	MM 336	lift pump	MM-1	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
4	006350	MM 336	lift pump	MM-3	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
5	006351	MM 336	lift pump	MM-5	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
6	006352	MM 336	lift pump	MM-8	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
7	006361	MM 336	lift pump	MM-11	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
8	006363	MM 336	pump	MM-22	FNG	0.0796	46.3	hp	orifice plate at 1.30 inches	9,800	0.454	3,975	1.0	1	24	2,190	8,760
9	006379	Waukesha 140	lift pump	W-24	FNG	0.0796	49.5	hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1	24	2,190	8,760
10	006380	Waukesha 140	lift pump	W-41	FNG	0.0796	49.5	hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1	24	2,190	8,760
11	006381	Waukesha 140	spare	W-36	FNG	0.0796	49.5	hp	orifice plate at 0.98 inches	9,100	0.450	3,946	1.0	1	24	2,190	8,760
12	006384	Waukesha 145	lift pump	W-37	FNG	0.0796	49.5	hp	orifice plate at 0.922 inches	9,100	0.450	3,946	1.0	1	24	2,190	8,760
13	009387	Waukesha 145	lift pump	W-51	FNG	0.0796	49.5	hp	orifice plate at 0.922 inches	9,100	0.450	3,946	1.0	1	24	2,190	8,760
<b>Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICEs (e, f)</b>																	
14	006388	Waukesha F1197	pump	W-2	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
15	006389	Waukesha F1197	pump	W-3	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
16	006390	Waukesha F1197	WW injection	W-8	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
17	006391	Waukesha F1197	pump	W-4	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
18	006392	Waukesha F1197	pump	W-12	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
19	006393	Waukesha F1197	WW injection	W-11	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
20	006394	Waukesha F1197	pump	W-15	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
21	006395	Waukesha F1197	pump	W-42	FNG	0.0796	195.0	hp	nameplate/NSCR Cat	9,100	1.775	15,545	1.0	1	24	2,190	8,760
22	006396	Buda/6MO-672	WW injection	B-5	FNG	0.0796	135.0	hp	nameplate/NSCR Cat	9,100	1.229	10,762	1.0	1	24	2,190	8,760
23	006397	Buda/6MO	pump	B-6	FNG	0.0796	174.0	hp	nameplate/NSCR Cat	9,100	1.583	13,871	1.0	1	24	2,190	8,760
<b>Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333 (j)</b>																	
24	006402	Clark HRA-6T	gas comprsr	HRA #11	FNG	0.0796	792.0	hp	namepl/retarded lean bn <sup>9</sup>	8,460	6.700	1,340	1.0	1	24	200	200
<b>Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>																	
25	006404	Detroit Diesel	air comprsr	D-1	D	0.0796	61.0	hp	nameplate	7,500	0.458	92	1.0	1	24	200	200
<b>Totals</b>							3,313.1 hp			29.74 199,244							

**Table 5.1-2  
E&B South Cuyama Unit Permit to Operate 8010-R5  
Equipment Emission Factors for ICES**

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	E&B ID #	Emission Factors in pounds of Pollutant per MMBtu							References
				NOx	ROC	CO	SOx	PM	PM10	EF Units	
<b>Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>											
1	006338	Waukesha 180GBK	W-40	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
<b>Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>											
2	006347	Waukesha 195	W-38	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
3	006348	MM 336	MM-1	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
4	006350	MM 336	MM-3	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
5	006351	MM 336	MM-5	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
6	006352	MM 336	MM-8	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
7	006361	MM 336	MM-11	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
8	006363	MM 336	MM-22	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
9	006379	Waukesha 140	W-24	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
10	006380	Waukesha 140	W-41	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
11	006381	Waukesha 140	W-36	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
12	006384	Waukesha 145	W-37	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
13	009387	Waukesha 145	W-51	1.905	0.103	1.600	0.136	~	0.010	lb/MMBtu	
<b>Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICES</b>											
14	006388	Waukesha F1197	W-2	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
15	006389	Waukesha F1197	W-3	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
16	006390	Waukesha F1197	W-8	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
17	006391	Waukesha F1197	W-4	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
18	006392	Waukesha F1197	W-12	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
19	006393	Waukesha F1197	W-11	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
20	006394	Waukesha F1197	W-15	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
21	006395	Waukesha F1197	W-42	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
22	006396	Buda/6MO-672	B-5	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
23	006397	Buda/6MO	B-6	0.190	0.830	10.100	0.136	~	0.010	lb/MMBtu	
<b>Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>											
24	006402	Clark HRA-6T	HRA #11	0.460	2.500	10.100	0.136	~	0.046	lb/MMBtu	d
<b>Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>											
25	006404	Detroit Diesel	D-1	3.320	0.260	0.240	0.240	~	0.240	lb/MMBtu	

**Table 5.1-3  
E&B South Cuyama Unit Permit to Operate 8010-R5  
Hourly and Daily Emissions**

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	E&B ID #	NOx		ROC		CO		SOx		PM		PM10		Federal Enforceability and its basis	
				lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day	lbs/hr	lbs/day		
<b>Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																	
1	006338	Waukesha 180GBK	W-40	0.42	9.99	0.02	0.54	0.35		8.39	0.03	0.71	~	~	0.00	0.05	A via PTO 8010
<b>Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																	
2	006347	Waukesha 195	W-38	0.72	17.39	0.04	0.94	0.61		14.61	0.05	1.24	~	~	0.00	0.09	A via PTO 8010
3	006348	MM 336	MM-1	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
4	006350	MM 336	MM-3	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
5	006351	MM 336	MM-5	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
6	006352	MM 336	MM-8	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
7	006361	MM 336	MM11	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
8	006363	MM 336	MM-22	0.86	20.74	0.05	1.12	0.73		17.42	0.06	1.48	~	~	0.00	0.11	A via PTO 8010
9	006379	Waukesha 140	W-24	0.86	20.59	0.05	1.11	0.72		17.30	0.06	1.47	~	~	0.00	0.11	A via PTO 8010
10	006380	Waukesha 140	W-41	0.86	20.59	0.05	1.11	0.72		17.30	0.06	1.47	~	~	0.00	0.11	A via PTO 8010
11	006381	Waukesha 140	W-36	0.86	20.59	0.05	1.11	0.72		17.30	0.06	1.47	~	~	0.00	0.11	A via PTO 8010
12	006384	Waukesha 145	W-37	0.86	20.59	0.05	1.11	0.72		17.30	0.06	1.47	~	~	0.00	0.11	A via PTO 8010
13	009387	Waukesha 145	W-51	0.86	20.59	0.05	1.11	0.72		17.30	0.06	1.47	~	~	0.00	0.11	A via PTO 8010
<b>Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICES</b>																	
14	006388	Waukesha F1197	W-2	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
15	006389	Waukesha F1197	W-3	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
16	006390	Waukesha F1197	W-8	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
17	006391	Waukesha F1197	W-4	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
18	006392	Waukesha F1197	W-12	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
19	006393	Waukesha F1197	W-11	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
20	006394	Waukesha F1197	W-15	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
21	006395	Waukesha F1197	W-42	0.34	8.09	1.47	35.35	17.92		430.14	0.24	5.80	~	~	0.02	0.43	FE via ATC 9076
22	006396	Buda/6MO-672	B-5	0.23	5.60	1.02	24.47	12.41		297.79	0.17	4.01	~	~	0.01	0.29	FE via ATC 9129
23	006397	Buda/6MO	B-6	0.30	7.22	1.31	31.54	15.99		383.82	0.22	5.17	~	~	0.02	0.38	FE via ATC 9129
<b>Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>																	
24	006402	Clark HRA-6T	HRA #11	3.08	73.97	16.75	402.02	67.67		1624.16	0.91	21.89	~	~	0.31	7.40	FE via ATC 8870
<b>Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>																	
25	006404	Detroit Diesel	D-1	1.52	36.45	0.12	2.85	0.11		2.64	0.11	2.64	~	~	0.11	2.64	A via PTO 8010

**Table 5.1-4  
E&B South Cuyama Unit Permit to Operate 8010-R5  
Quarterly and Annual Emissions**

APCD Permit ID#	APCD Device Number	Emissions Unit Make & Model	E&B ID #	NOx TPQ	NOx TPY	ROC TPQ	ROC TPY	CO TPQ	CO TPY	SOx TPQ	SOx TPY	PM TPQ	PM TPY	PM10 TPQ	PM10 TPY	Federal Enforceability and its basis
<b>Unmodified Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																
1	006338	Waukesha 180GBK	W-40	0.46	1.82	0.02	0.10	0.38	1.53	0.03	0.13			0.00	0.01	A via PTO 8010
<b>Derated Natural Gas-Fired, Rich-Burn, Non-Cyclic Engines Not Subject to Rule 333</b>																
2	006347	Waukesha 195	W-38	0.79	3.17	0.04	0.17	0.67	2.67	0.06	0.23			0.00	0.02	A via PTO 8010
3	006348	MM 336	MM-1	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
4	006350	MM 336	MM-3	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
5	006351	MM 336	MM-5	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
6	006352	MM 336	MM-8	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
7	006361	MM 336	MM-11	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
8	006363	MM 336	MM-22	0.95	3.79	0.05	0.20	0.79	3.18	0.07	0.27			0.00	0.02	A via PTO 8010
9	006379	Waukesha 140	W-24	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27			0.00	0.02	A via PTO 8010
10	006380	Waukesha 140	W-41	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27			0.00	0.02	A via PTO 8010
11	006381	Waukesha 140	W-36	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27			0.00	0.02	A via PTO 8010
12	006384	Waukesha 145	W-37	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27			0.00	0.02	A via PTO 8010
13	009387	Waukesha 145	W-51	0.94	3.76	0.05	0.20	0.79	3.16	0.07	0.27			0.00	0.02	A via PTO 8010
<b>Controlled Natural Gas-Fired, Rich Burn, Noncyclic ICES</b>																
14	006388	Waukesha F1197	W-2	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
15	006389	Waukesha F1197	W-3	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
16	006390	Waukesha F1197	W-8	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
17	006391	Waukesha F1197	W-4	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
18	006392	Waukesha F1197	W-12	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
19	006393	Waukesha F1197	W-11	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
20	006394	Waukesha F1197	W-15	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
21	006395	Waukesha F1197	W-42	0.37	1.48	1.61	6.45	19.63	78.50	0.26	1.06			0.02	0.08	FE via ATC 9076
22	006396	Buda/6MO-672	B-5	0.26	1.02	1.12	4.47	13.59	54.35	0.18	0.73			0.01	0.05	FE via ATC 9129
23	006397	Buda/6MO	B-6	0.33	1.32	1.44	5.76	17.51	70.05	0.24	0.94			0.02	0.07	FE via ATC 9129
<b>Controlled Gas-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>																
24	006402	Clark HRA-6T	HRA #11	0.31	0.31	1.68	1.68	6.77	6.77	0.09	0.09			0.03	0.03	FE via ATC 8870
<b>Uncontrolled Diesel-Fired, Lean Burn, Non-Cyclic Engine Not Subject to Rule 333</b>																
25	006404	Detroit Diesel	D-1	0.15	0.15	0.01	0.01	0.01	0.01	0.01	0.01			0.01	0.01	A via PTO 8010

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## 10.4 EQUIPMENT LIST

### Santa Barbara County APCD – Equipment List

PTO 12284 / FID: 08916 E & B IC Engines / SSID: 01073

#### A PERMITTED EQUIPMENT

##### 1 Air/Fuel Ratio Controller W-12

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<i>Device ID #</i>	<b>109995</b>	<i>Device Name</i>	<b>Air/Fuel Ratio Controller W-12</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Omnitek	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	A/F ratio controller installed on APCD Dev No 006392 (E&B ID# W-12)		
<i>Description</i>	Waukesha F1197 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst.		

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##### 2 Air/Fuel Ratio Controller W-11

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<i>Device ID #</i>	<b>109996</b>	<i>Device Name</i>	<b>Air/Fuel Ratio Controller W-11</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Omnitek	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	A/F ratio controller installed on APCD Dev No 006393 (E&B ID# W-11)		
<i>Description</i>	Waukesha F1197 rich burn gas fired engine controlled by a Johnson Mathey Duro NOx Model 200 noble metal catalyst		

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##### 3 Air/Fuel Ratio Controller W-42

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<i>Device ID #</i>	<b>109997</b>	<i>Device Name</i>	<b>Air/Fuel Ratio Controller W-42</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Omnitek	<i>Operator ID</i>	

<i>Model</i>	<i>Serial Number</i>
<i>Location Note</i>	
<i>Device</i>	A/F ratio controller installed on APCD Dev No 006395 (E&B ID# W-42)
<i>Description</i>	Waukesha F1197 rich burn gas fired engine controlled by a Johnson Matthey Duro NOx Model 200 noble metal catalyst

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#### **4 Air/Fuel Ratio Controller B-5**

<i>Device ID #</i>	<b>109998</b>	<i>Device Name</i>	<b>Air/Fuel Ratio Controller B-5</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Omnitek	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	A/F ratio controller installed on APCD Dev No 006396 (E&B ID# B-5)		
<i>Description</i>	Buda 6MO-672 rich burn gas fired engine controlled by a Johnson Matthey Duro NOx Model 200 noble metal catalyst		

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#### **5 IC Engine: W-12**

<i>Device ID #</i>	<b>006392</b>	<i>Device Name</i>	<b>IC Engine: W-12</b>
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-12
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Engine drives the Machader West wastewater injection pump.		
<i>Description</i>	Controlled with a Johnson Matthey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

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#### **6 IC Engine: W-11**

<i>Device ID #</i>	<b>006393</b>	<i>Device Name</i>	<b>IC Engine: W-11</b>
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-11
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Spare engine in storage at Gas Plant 10. Controlled with a Johnson Matthey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		
<i>Description</i>			

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**7 IC Engine: W-42**

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<i>Device ID #</i>	<b>006395</b>	<i>Device Name</i>	<b>IC Engine: W-42</b>
<i>Rated Heat Input</i>	1.770 MMBtu/Hour	<i>Physical Size</i>	195.00 Brake Horsepower
<i>Manufacturer</i>	Waukesha	<i>Operator ID</i>	W-42
<i>Model</i>	F1197	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Engine drives the Perkins North wastewater injection pump.		
<i>Description</i>	Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

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**8 IC Engine: B-5**

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<i>Device ID #</i>	<b>006396</b>	<i>Device Name</i>	<b>IC Engine: B-5</b>
<i>Rated Heat Input</i>	0.450 MMBtu/Hour	<i>Physical Size</i>	135.00 Brake Horsepower
<i>Manufacturer</i>	Buda	<i>Operator ID</i>	B-5
<i>Model</i>	6MO-672	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	Engine drives the Machader East wastewater injection pump.		
<i>Description</i>	Controlled with a Johnson Mathey DuraNOx Model 200 using noble metal catalyst served by an Omnitek air/fuel ratio controller.		

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**1.0 BACKGROUND**

- 1.1 General: E&B Natural Resources Management was issued an Authority to Construct 12284 on July 7, 2007 to install a new Omnitek air/fuel controller system (AFRC) on IC engines with E&B ID#s W-11, W-12, W-42, and B-5 at the South Cuyama Unit. The AFRCs were installed and tested during SCDP. An application for PTO 12284 was received on October 4, 2007 and deemed complete on November 2, 2007. A draft PTO was issued to the permittee on December 21, 2007.
- 1.2 Permit History: See Section 1.2.2 of Part 70 Operating Permit and Permit to Operate 8010-R5.
- 1.3 Compliance History: See Section 3.5 of Part 70 Operating Permit and Permit to Operate 8010-R5 for a complete compliance history of the facility.

2007 Compliance History: Rule 333 emission limit exceedances were documented during a biennial source test conducted on May 22 - 23, 2007 on three South Cuyama wastewater injection pump engines. During the May 22 source test, NOx emissions from two Waukesha Model F1197 engines (E&B Natural Resources ID #'s W-11 and W-42) were measured at 516 ppmv and 572 ppmv NOx at 15 % O2 respectively. During the May 23 source test, the CO emission from one Buda Model 6MO-0672 engine (E&B Natural Resources ID# B-5) was measured at 8278 ppmv CO at 15 % O2. APCD Notice of Violation 8895 was issued to E&B Natural Resources for exceeding the Rule 333 emission limits for rich-burn, non-cyclic engines of 50 ppmv NOx at 15 % O2 and 4500 ppmv CO at 15 % O2. E&B Natural Resources petitioned and the APCD Hearing Board granted Interim/90 Day Variance 16-07-I/17-07-N. The conditions of the variance required E&B Natural Resources to install air/fuel ratio controllers on the above engines and to retest to confirm compliance with Rule 333. An AFRC was installed on each engine under ATC 12284 and each engine was source tested on July 26 – 27, 2007 during the SCDP required by ATC 12284. The test results confirmed compliance of each engine with Rule 333 emission limits.

**2.0 ENGINEERING ANALYSIS**

- 2.1 Equipment/Processes: Oil, water, and gas are produced from oil and gas wells at the South Cuyama Unit. The production from these wells is piped to one of several tank farms. Liquids are sent to the wash tanks with the crude going to the LACT tanks and the water going to the wastewater gathering system. Any entrained gas in the crude oil is captured by the vapor recovery system. The IC engines subject to this permitting action are used in waste water injection on a primary and standby basis.

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- 2.2 Emission Controls: The emission controls existing on permitted engines subject to this ATC include a Johnson Matthey DuraNOx Model 200 noble metal non-selective catalytic converter to control NOx, ROC, and CO emissions. An Omnitek air/fuel ratio controller and oxygen sensor was installed under ATC 12284 to insure that the engines controlled by the catalyst effectively comply with permitted emission limitations and Rule 333.
- 2.3 Emission Factors: Emission factors for each equipment item are documented in Part 70 Operating Permit and Permit to Operate 8010-R5.
- 2.4 Reasonable Worst Case Emission Scenario: Worst case emissions are based on operation of this facility at maximum permitted throughput levels, 24 hours/day, 365 days per year.
- 2.5 Emission Calculations: There are no changes to permitted emission limits for the engines listed in Table 1. Detailed emission calculation spreadsheets may be found in Part 70 Operating Permit and Permit to Operate 8010-R5. These emissions define the Potential to Emit for the permitted equipment.
- 2.6 Special Calculations: There are no special calculations.
- 2.7 BACT Analyses: Best Available Control Technology was not required for this project.
- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the control device is operated properly.
- 2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that the emission limits are enforceable. This permit requires monitoring the permitted emissions per source testing and tracking of air/fuel ratio controller readouts per ICE Inspection and Maintenance ("I&M") Plan.
- 2.10 Recordkeeping and Reporting Requirements: The permit requires recording and reporting entries from the *Engine Inspection and Maintenance Plan*, *Control Device Significant Activities Log*, and *AFRC Controller Log*.

**3.0 REEVALUATION REVIEW (not applicable)**

**4.0 REGULATORY REVIEW**

- 4.1 Partial List of Applicable Rules: This project is anticipated to operate in compliance with the following rules:

- Rule 101. Compliance of Existing Facilities
- Rule 201. Permits Required
- Rule 202. Exemptions to Rule 201

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- Rule 205. Standards for Granting Permits
- Rule 303. Nuisance
- Rule 333. Control of Emissions from Reciprocating Internal Combustion Engines
- Rule 505. Breakdown Procedures
- Rule 801. New Source Review
- Rule 802. Nonattainment Review
- Rule 803. Prevention of Significant Deterioration

4.2 Rules Requiring Review: None

4.3 NEI Calculations: The net emission increase calculation is used to determine whether certain requirements must be applied to a project (e.g., offsets, AQIA, PSD BACT). The NEI values for the stationary source (the I, P1, P2 and D terms of the NEI calculation) are documented in Attachments A and B. There is no increase to the emissions from the four IC engines as controlled by the air/fuel ratio controller system as a result of this permit action. Therefore there is no resultant adjustment to the New Cuyama facility Net Emission Increase.

**5.0 AQIA**

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

**6.0 OFFSETS/ERCs**

6.1 Offsets: The emission offset thresholds of Regulation VIII are not exceeded.

6.2 ERCs: This source does not generate emission reduction credits.

**7.0 AIR TOXICS**

An air toxics health risk assessment was not performed for this permitting action.

**8.0 CEQA / LEAD AGENCY**

This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County APCD (revised November 16, 2000). Appendix A. of APCD CEQA Guidelines (*Equipment or Operations Exempt from CEQA*) specifically exempts permits to operate.

**9.0 SCHOOL NOTIFICATION**

A school notice pursuant to the requirements of H&SC §42301.6 was not required.

**10.0 PUBLIC and AGENCY NOTIFICATION PROCESS/COMMENTS ON DRAFT PERMIT**

This project was not subject to public notice. The permittee submitted comments on the draft PTO via email on January 9, 2008. The APCD responses to those comments appear in Attachment D of this permit.

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**11.0 FEE DETERMINATION**

Fees for the APCD's work effects are assessed on a fee basis. The Project Code is 300000 (*Onshore Oil and Gas Lease*). See the *Fee Statement* Attachment for the fee calculations.

**12.0 RECOMMENDATION**

It is recommended that this permit be granted with the conditions as specified in the permit.

Al Ronyecz			
AQ Engineer	Date	Engineering Supervisor	Date

**13.0 ATTACHMENTS**

- A Figures & Tables
- B IDS Tables
- C Fee Calculations
- D Response to Comments

# ATTACHMENT A

## Figures & Tables

**TABLE A.1 – NET EMISSIONS INCREASE (NEI) DOCUMENTATION:**

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

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

Where:

I = Potential to emit of the modification

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

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

D = Pre-1990 baseline actual emission decreases = none claimed

### Stationary Source Net Emissions Increase

Equipment Category	NOx	ROC	CO	SOx	PM	PM10
<b>PTO 7250-R6 issued June 14, 2005</b>						
lbs/day	1.53	38.75	1.29	0.21	0.12	0.12
tons/year	0.28	7.07	0.23	0.04	0.02	0.02
<b>PTO 11558 - New 1,250 bbl Wash Tank at Tank Farm #6 issued April 18, 2006.</b>						
lbs/day		0.51				
tons/year		0.09				
<b>ATC 12279 - New 5,000 bbl Wash Tank at Tank Farm #6.</b>						
lbs/day		1.65				
tons/year		0.30				
<b>PTO 12284 - Installation of Air/Fuel Ratio Controllers.</b>						
lbs/day		0.00				
tons/year		0.00				
<b>Total</b>						
lbs/day	1.53	40.91	1.29	0.21	0.12	0.12
tons/year	0.28	7.46	0.23	0.04	0.02	0.02

# ATTACHMENT B

## IDS Tables

**Table 1**  
**Permitted Potential to Emit**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
<b>South Cuyama Unit</b>						
lbs/day	0.00	0.00	0.00	0.00	0.00	0.00
TPY	0.00	0.00	0.00	0.00	0.00	0.00

**Table 2**  
**Facility Potential to Emit**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
<b>South Cuyama Unit</b>						
lbs/day	2.35	606.60	1.98	2.37	0.18	0.18
TPY	0.43	109.66	0.36	0.60	0.03	0.03

**Table 3**  
**Federal PT-70 Facility Potential to Emit**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
<b>South Cuyama Unit</b>						
lbs/day	2.35	35.98	1.98	3.27	0.45	0.45
TPY	0.43	6.29	0.36	0.60	0.08	0.08

**Table 4**  
**Net Emissions Increase**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
<b>South Cuyama Unit</b>						
lbs/day	1.53	40.91	1.29	0.21	0.12	0.12
TPY	0.28	7.46	0.23	0.04	0.02	0.02

**Table 5**  
**Exempt Emissions**

	NO <sub>x</sub>	ROC	CO	SO <sub>x</sub>	PM	PM <sub>10</sub>
<b>South Cuyama Unit</b>						
TPQ	0.00	0.07	0.00	0.00	0.01	0.01
TPY	0.00	0.28	0.00	0.00	0.05	0.05

# ATTACHMENT C

## Fee Statement

# FEE STATEMENT

PTO No. 12284

FID: 08916 E & B IC Engines / SSID: 01073



## 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
109995	Air/Fuel Ratio Controller W-12	A	1.000	0			1	1.000	0.00	0.00	0.00	0.00
109996	Air/Fuel Ratio Controller W-11	A	1.000	0			1	1.000	0.00	0.00	0.00	0.00
109997	Air/Fuel Ratio Controller W-42	A	1.000	0			1	1.000	0.00	0.00	0.00	0.00
109998	Air/Fuel Ratio Controller B-5	A	1.000	0			1	1.000	0.00	0.00	0.00	0.00
<b>Device Fee Sub-Totals =</b>									<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	
<b>Device Fee Total =</b>												<b>\$0.00</b>

## Permit Fee

Misc Only Source

354.00

**Fee Statement Grand Total = \$354**

### Notes:

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- (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.

# ATTACHMENT D

## Response to Comments

**The following are the APCD responses to E & B Natural Resource's January 9, 2008 emailed comments on the draft permit:**

1. E&B Natural Resource Comment: The engines that are affected by this PTO mod are numbers are 14-23 on Table 5.1-1 through 5.1-4. Condition 9.C.14., 9.C.14.a. and 9.C.14.b. vary from 15-28 and 15-24. I think that these are just hold overs from previous ATC's and PTO's.

APCD Response: Permit condition 9.C.14 has been revised per the comment.

2. E&B Natural Resource Comment: Table 9.1 needs to reflect the correct engine ID numbers (14-23).

APCD Response: Table 9.1 has been revised to identify the test requirements applicable to engines subject to Rule 333.