San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 2 1 2014

Mr. Tom Lovelace
Lovelace and Sons Farming
P.O. Box 776
Coalinga, Ca 93210

Re: Notice of Preliminary Decision - Federally Mandated Operating Permit
District Facility # C-5370
Project # C-1130866

Dear Mr. Lovelace:

Enclosed for your review is the District's analysis of Lovelace and Sons Farming's application for the Federally Mandated Operating Permit for its operation at 42005 S. Alpine Ave in Coalinga, California.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Federally Mandated Operating Permit. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

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SAN JOAQUIN VALLEY
UNIFIED AIR POLLUTION CONTROL DISTRICT

LOVELACE AND SONS FARMING

PROPOSED ENGINEERING EVALUATION

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TITLE V APPLICATION REVIEW

Project #: C-1130866
Deemed Complete: April 17, 2013

Engineer: Vanesa Gonzalez
Date: August 21, 2014

Facility Number: C-5370
Facility Name: Lovelace and Sons Farming
Mailing Address: P. O. Box 776
Coalinga, Ca 93210

Contact Name: Tom Lovelace
Phone: (559) 935-2164

Responsible Official: Tom Lovelace Jr.
Title: Partner

I. PROPOSAL

Lovelace and Sons Farming is proposing that an initial Title V permit be issued for its agricultural facility at 42005 S. Alpine Avenue in Coaling, CA. The purpose of this evaluation is to identify all applicable requirements, determine if the facility will comply with those applicable requirements, and to provide the legal and factual basis for proposed permit conditions.

II. FACILITY LOCATION

Lovelace and Sons Farming is located 42005 S. Alpine Avenue in Coalinga, Fresno County, CA.

III. EQUIPMENT LISTING

A detailed facility printout listing all permitted equipment at the facility is shown in Attachment A.

IV. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen to not use any model general permit templates.

V. SCOPE OF EPA AND PUBLIC REVIEW

The applicant has not requested to utilize any model general permit templates. Therefore, the proposed permit in its entirety is subject to EPA and public review.

VI. REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

VII. REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District Rule 1081, Source Sampling (amended December 16, 1993)

District Rule 1100, Equipment Breakdown (amended December 17, 1992) (Non-SIP replacement for Madera County Rule 113)

District Rule 1160, Emission Statements (adopted November 18, 1992)

District Rule 2010, Permits Required (amended December 17, 1992)

District Rule 2020, Exemptions (amended August 18, 2011)

District Rule 2031, Transfer of Permits (amended December 17, 1992)

District Rule 2040, Applications (amended December 17, 1992)

District Rule 2070, Standards for Granting Applications (amended December 17, 1992)

District Rule 2080, Conditional Approval (amended December 17, 1992)

District Rule 2201, New and Modified Stationary Source Review (amended April 21, 2011)

District Rule 2520, Federally Mandated Operating Permits (amended June 21, 2001)

District Rule 4101, Visible Emissions (amended February 17, 2005)

District Rule 4103, Open Burning (amended April 15, 2010)

District Rule 4201, Particulate Matter Concentration (amended December 17, 1992)

District Rule 4550, Conservation Management Practices (adopted August 19, 2004)

District Rule 4601, Architectural Coatings (amended December 17, 2009)

District Rule 4621, Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants (Amended December 19, 2013)

District Rule 4622, Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended December 19, 2013)

District Rule 4701, Internal Combustion Engines – Phase 1 (amended August 21, 2003)

District Rule 4702, Internal Combustion Engines – Phase 2 (amended November 14, 2013)

District Rule 8011, General Requirements (amended August 19, 2004)

District Rule 8021, Construction, Demolition, Excavation, and Other Earthmoving Activities (amended August 19, 2004)

District Rule 8031, Bulk Materials (amended August 19, 2004)

District Rule 8041, Carryout and Trackout (amended August 19, 2004)

District Rule 8051, Open Areas (amended August 19, 2004)

District Rule 8061, Paved and Unpaved Roads (amended August 19, 2004)

District Rule 8071, Unpaved Vehicle/Equipment Traffic Areas (amended September 16, 2004)

District Rule 8081, Agricultural Sources (amended September 16, 2004)

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR Part 61, Subpart M, National Emission Standard for Asbestos

40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR Part 64, Compliance Assurance Monitoring (CAM)

40 CFR Part 82, Subpart B and F, Stratospheric Ozone

VIII. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable through Title V Permit.

This facility is subject to the following rules that are not currently federally enforceable:

District Rule 4102 – Nuisance

This rule prevents the discharge from any source whatsoever such quantities of air contaminants or other materials 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 of any such person or the public

or which cause or have a natural tendency to cause injury or damage to business or property.

- Condition 40 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

District Rule 4801 – Sulfur Compounds

This rule limits the emissions of sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO2), on a dry basis averaged over 15 consecutive minutes.

See the table below for the demonstration of compliance for each unit.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	6
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	7

IX. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

1. Facility Wide Requirements

The applicant proposes not to utilize any model general permit templates. All applicable requirements are addressed in the following sections.

B. Requirements Not Addressed by Model General Permit Templates

1. District Rule 1081 – Source Sampling

The purpose of this rule is to ensure that any source operation that emits or may emit air contaminants provides adequate and safe facilities for use in sampling to determine compliance. This rule also specifies methods and procedures for source testing, sample collection, and compliance determination.

Section 3.1 requires that sampling port locations must be determined according to criteria in the California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing.

Section 3.2 requires that sampling platforms must be constructed according to specifications shown in the Air Resources Board publication entitled Supplement to Stationary Source Test Methods, Volume I, Appendix A, page 1-A-15.

Section 3.3 requires that in addition to the general industry safety orders of the State of California Title 14, Number 32776, Chapter 4, Subchapter 7, pertaining to ladders, all ladders accessing sampling platforms on any stack, chimney, or other structure will be caged and equipped with rest platforms at 20 foot intervals.

Section 4.0 requires that the owner of such a source operation, when requested by the APCO, shall provide records or other information, which will enable the APCO to determine when a representative sample can be taken. In addition, upon the request of the APCO and as directed by him, the owner of such a source operation shall collect, have collected, or allow the APCO to collect, a source sample.

Section 5.0 requires that the applicable test method, if not specified in the rule, shall be conducted in accordance with Title 40 CFR Subpart 60 Appendix A, except PM_{10} for compliance with Rule 2201 (New and Modified Stationary Source Review) requirements shall be conducted in accordance with Title 40 CFR Subpart 51, Appendix M, Method 201 or 201A. Where no test method exists in the preceding references for a source type, source sampling shall be conducted in accordance with CARB approved methods.

Section 6.1 requires that for the purpose of determining compliance with an applicable standard or numerical limitation, the arithmetic mean of three (3) test runs shall apply, unless two (2) of the three (3) results are above the applicable limit. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.

Section 6.2 requires that a scheduled source test may not be discontinued solely due to the failure of one or more runs to meet applicable standards.

Section 6.3 requires that In the event that a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions

presenting a hazard to the sampling team, or other circumstances beyond the owner or operators control, upon the APCO's approval, compliance may be determined using the arithmetic mean of the other two (2) runs.

Section 7.1 requires that the District must be notified 30 days prior to any compliance source testing and the owner shall submit a source test plan for District approval 15 days prior to source sampling.

Section 7.2 requires that source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel.

Section 7.3 requires that Source test reports must be submitted to the District within 60 days of completion of field-testing. Source tests must be submitted for all District authorized compliance source tests regardless of pass, fail or reschedule because of failure, status. A District authorized compliance source test shall not be discontinued solely due to the failure of one (1) or more runs to meet applicable standards.

See the table below for the demonstration of compliance for each unit.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	12, 16, and 17

2. District Rule 1100 – Equipment Breakdown

This rule defines a breakdown condition and the procedures to follow if one occurs. The corrective action, the issuance of an emergency variance, and the reporting requirements are also specified. Sections 6.0 and 7.0 prescribe breakdown procedures and reporting requirements. District Rule 1100 has been submitted to the EPA to replace Madera County Rule 113 that is in the State Implementation Plan (SIP). District Rule 1100 is at least as stringent as the county SIP rule addressing breakdowns, as shown in following.

Comparison of District Rule 1100 to Madera County Rule 113

REQUIREMENTS	District Rule 1100	Madera Rule 113
A breakdown occurrence must be reported as soon as reasonably possible but no later than 1 hour after detection.	X	X
A variance must be obtained if the occurrence will last longer than a production run or 24 hours, whichever is shorter (96 hours for CEM systems).	X	X
A report must be submitted to the APCO within 10 days of the	X	X

REQUIREMENTS	District Rule 1100	Madera Rule 113
correction of the breakdown occurrence which includes:		
1) A statement that the breakdown condition has been corrected, together with the date of correction and proof of compliance.	X	X
2) A specific statement of the reason(s) or cause(s) for the occurrence sufficient to enable the APCO to determine whether the occurrence was a breakdown condition.	X	X
3) A description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future.	X	X
4) Pictures of the equipment or controls which failed if available.	X	X

- Conditions 1, 2, and 11 on the facility-wide requirements for the proposed permit ensure compliance with this rule.

3. District Rule 1160 – Emission Statements

The purpose of this rule is to provide the District with an accurate accounting of emissions from significant sources with which the District and California EPA Air Resources Board (ARB) can compile an accurate inventory. Section 5.0 requires the owner or operator of any stationary source to provide the District with a written emissions statement showing actual emissions of reactive organic gases (ROGs) and nitrogen oxides (NOx) from that source. The District waives this requirement for sources emitting less than 25 tons per year of these pollutants if the District provides the Air Resources Board (ARB) with an emissions inventory of sources emitting greater than 10 tons per year of NOx or ROGs based on the use of emission factors acceptable to the ARB.

- Condition 3 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

4. District Rule 2010 – Permits Required

District Rule 2010 sections 3.0 and 4.0 require any person building, modifying or replacing any operation that may cause the issuance of air contaminants to apply for an Authority to Construct (ATC) from the District in advance. The ATC will remain in effect until the Permit to Operate (PTO) is granted.

- Condition 4 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

5. District Rule 2020 – Exemptions

District Rule 2020 lists equipment which is specifically exempt from obtaining permits and specifies recordkeeping requirements to verify such exemptions. The rule was amended in August 8, 2011. Since the amendments do not affect the current permit requirements, the changes to the rule will not be addressed in this evaluation.

- Condition 4 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

6. District Rule 2031 – Transfer of Permits

This rule requires a permit to operate or an authority to construct shall not be transferable, whether by operation of law or otherwise, from one location to another, from one piece of equipment to another, or from one person to another, unless a new application is filed with and approved by the APCO.

- Condition 6 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

7. District Rule 2040 – Applications

The purpose of this rule is to explain the procedures for filing, denying, and appealing the denial of applications for an Authority to Construct or a Permit to Operate.

- Condition 7 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

8. District Rule 2070 – Standards for Granting Applications

The purpose of this rule is to explain the standards by which an APCO may deny an application for an Authority to Construct or Permit to Operate. Any source operation must be constructed and operated in accordance with Rule 2201 (New and Modified Stationary Source Review Rule), Rule 4001 (New Source Performance Standards), and Rule 4002 (National Emissions Standards for Hazardous Air Pollutants), the Authority to Construct, and the Permit to Operate.

- Condition 5 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

9. District Rule 2080 – Conditional Approval

The purpose of this rule is to grant authority to the APCO to issue or revise specific written conditions on an Authority to Construct or a Permit to Operate to ensure compliance with air contaminant emission standards or limitations.

- Condition 5 on the facility-wide requirements for the proposed permit ensures compliance with this rule.

10. District Rule 2201 - New and Modified Stationary Source Review

District Rule 2201 applies to new and modifying sources that require a District permit. Previously, agricultural operations in California were exempt from District permitting requirements. Pursuant to California Senate Bill (SB) 700 and effective January 1, 2004, agricultural operations with emissions exceeding ½ the major source threshold for any affected pollutant became subject to District permitting requirements. Permit unit C-5370-18-0 did not require a permit at the time of installation. Therefore, pursuant to Section 9.0 of District Rule 2020 – Exemptions, this unit was not subject to the requirements of District Rule 2201 during the initial permitting action and will not be subject to District Rule 2201 until modified.

The remaining permit units are subject to District Rule 2201 upon application for Authority to Construct (ATC). In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting Permit to Operate (PTO) were addressed to define how NSR permit terms should be incorporated into the Title V permit.

a) *C-5370-1-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Conditions 1 thru 4 of the permit requirements have been included as conditions 1 thru 4 of the draft permit requirements.

Condition 5 of the permit requirements has been removed and included as condition 22 of the draft facility-wide requirements.

Condition 6 thru 26 of the permit requirements have been included as conditions 5 thru 25 of the draft permit requirements.

Conditions 27 and 28 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Conditions 26 thru 34 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

b) *C-5370-2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Conditions 1 thru 4 of the permit requirements have been included as conditions 1 thru 4 of the draft permit requirements.

Condition 5 of the permit requirements has been removed and included as condition 22 of the draft facility-wide requirements.

Condition 6 thru 26 of the permit requirements have been included as conditions 5 thru 25 of the draft permit requirements.

Conditions 27 and 28 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Conditions 26 thru 34 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

c) *C-5370-4-2: 250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

d) *C-5370-5-2: 250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

e) *C-5370-6-2: 250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

f) *C-5370-7-2: 250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

g) *C-5370-9-2: 200 HP CUMMINS MODEL G855 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

h) *C-5370-10-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

i) *C-5370-11-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

j) *C-5370-12-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

k) *C-5370-13-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

l) *C-5370-14-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

m) *C-5370-15-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

n) *C-5370-17-2: 90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP*

Condition 1 of the permit requirements has been included as condition 1 of the draft permit requirements.

Conditions 2 and 3 of the permit requirements have been removed and included as conditions 18 and 19 of the draft facility-wide requirements.

Condition 4 thru 28 of the permit requirements have been included as conditions 2 thru 26 of the draft permit requirements.

Conditions 27 thru 35 were added to the permit requirements for 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* compliance.

11. District Rule 2520 – Federally Mandated Operating Permits

The purpose of this rule is to provide for the following: An administrative mechanism for issuing operating permits for new and modified sources of air contaminants in accordance with requirements of 40 CFR Part 70. An administrative mechanism for issuing renewed operating permits for sources of air contaminants in accordance with requirements of 40 CFR Part 70. An administrative mechanism for revising, reopening, revoking, and terminating operating permits for sources of air contaminants in accordance with requirements of 40 CFR Part 70. An administrative mechanism for incorporating requirements authorized by preconstruction permits issued under District Rule 2201 (New and Modified Stationary Source Review) in a Part 70 permit as administrative amendments, provided that such permits meet procedural requirements substantially equivalent to the requirements of 40 CFR 70.7 and 70.8, and compliance requirements substantially equivalent to those contained in 40 CFR 70.6. The applicable federal and local requirements to appear on a single permit.

Section 5.2 requires permittees submit applications for Title V permit renewal at least six months prior to permit expiration.

- Condition 37 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 9.0 of District Rule 2520 requires certain elements to be contained in each Title V permit:

Section 9.1.1 of District Rule 2520 requires all conditions on Title V permits specify a reference of the origin of an authority for each term or condition, and identify any difference in form as compared to the applicable requirements upon which the term or condition is based.

- Condition 39 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 9.4 contains requirements to incorporate all applicable recordkeeping requirements into the Title V permit. This section also specifies records of any required monitoring and support data be kept for a period of five years.

- Conditions 8 and 9 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

Section 9.5 requires the submittal of monitoring reports at least every six months. Prompt reporting of deviations from permitting requirements, including those attributable to upset conditions is also required. The responsible official must certify all required reports.

- Conditions 10 and 11 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

Section 9.7 states that the Title V permit must also contain a severability clause in case of a court challenge.

- Condition 12 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 9.8 contains requirements for provisions in the Title V permit stating 1) the permittee must comply with all permit conditions; 2) the permitted activity should not be reduced in order to comply with the permit conditions. Further, this reasoning shall not be used as a defense in an enforcement action, 3) the permit may be revoked, modified, reissued, or reopened for cause, 4) the Title V permit does not reflect any property rights, and 5) the permittee will furnish the District with any requested information to determine compliance with the conditions of the Title V permit.

- Conditions 5 and 13 through 16 on the Facility-Wide requirements for the proposed permit assure compliance with this rule.

Section 9.9 requires the permit specify that the permittee pay annual permit fees and applicable fees from District Rules 3010, 3030, 3050, 3080, 3090, 3110, and 3120.

- Condition 17 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 9.13.1 requires any report or document submitted under a permit requirement or a request for information by the District or EPA contain a certification by a responsible official as to truth, accuracy, and completeness.

- Condition 26 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 9.13.2 contains inspection and entry requirements that allows an authorized representative of the District to enter a permittee's premises to inspect equipment, operations, work practices, permits on file, and to sample substances or monitor parameters for the purpose of assuring compliance with the permit requirements.

- Conditions 18, 19, 20, and 21 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

Section 9.16 requires that the permittee submit certification of compliance with the terms and standards of Title V permits to the EPA and the District annually (or more frequently as required by the applicable requirement or the District).

- Condition 37 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Section 10.0 requires any application form, report, or compliance certification submitted pursuant to these regulations shall contain certification of truth, accuracy, and completeness by a responsible official.

- Condition 26 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

Greenhouse Gas Requirements

There are no federally applicable Greenhouse Gas (GHG) requirements for this source. It should be noted that the Mandatory Greenhouse Gas Reporting rule (40CFR Part 98) is not included in the definition of an

applicable requirement within Title V (per 40CFR 71.2). Therefore, there will be no further discussion of GHG in this evaluation.

12. District Rule 4101 – Visible Emissions

The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere. Section 5.0 prohibits the discharge of any air contaminant for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart; or is of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of Rule 4101.

- Condition 22 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

13. District Rule 4103 - Open Burning

The purpose of this rule is to permit, regulate, and coordinate the use of open burning while minimizing smoke impacts on the public.

This rule applies to open burning conducted in the San Joaquin Valley Air Basin, with the exception of prescribed burning and hazard reduction burning as defined in Rule 4106 (Prescribed Burning and Hazard Reduction Burning).

Pursuant to Section 4.3, the following activities are exempt from the no-burn day restrictions, subject to APCO authorization and permit requirements.

Pursuant to Section 5.1.4, the Permit-to-Operate application or Authority-to-Construct application shall include the following information, which is in addition to the facility emission mitigation plan:

1. The burning of empty sacks which contained pesticides or other toxic substances, provided that the sacks are within the definition of agricultural burning
2. The burning of paper raisin trays
3. Other agricultural burning, if the denial of such burning would threaten imminent and substantial economic loss, and which is conducted pursuant to the following provisions:
    a. The APCO may only authorize such burning when downwind metropolitan areas are forecast by the District to achieve the ambient air quality standards and/or a fire agency has not declared a no-burn day due to safety issues.
    b. The District shall limit the amount of acreage that can be burned on any one no-burn day in any one county to 200 acres.

c. The granting of an exemption does not exempt the applicant from any other District or fire control regulations.
d. Within 15 days of receiving an exemption, the applicant shall return a signed application form that provides the reasons for requesting the exemption and shall pay the required District fee.

Section 5.1 requires that, except as otherwise provided in this rule, no person shall set, permit, or use an open outdoor fire for the purpose of disposal or burning of petroleum wastes; demolition or construction debris; residential rubbish; garbage or vegetation; tires; tar; trees; wood waste; or other combustible or flammable solid, liquid or gaseous waste; or for metal salvage or burning of motor vehicle bodies.

Section 5.2 stipulates that the APCO allocate burning based on the predicted meteorological conditions and whether the total tonnage to be emitted would allow the volume of smoke and other contaminants to cause a public nuisance, impact smoke sensitive areas, or create or contribute to an exceedance of an ambient air quality standard.

Section 5.3 stipulates that the APCO shall restrict the time of day when burns are ignited and conducted, as necessary.

Section 5.5.1 stipulates that, except for crops covered by Section 5.5.2, no permit shall be issued for the burning of the following categories of agricultural waste: field crops, prunings, weed abatement, except for the categories covered by Section 5.5.3, orchard removals, vineyard removal materials, surface harvested prunings, and other materials.

Pursuant to Section 5.5.2, the District may postpone the prohibitions in Section 5.5.1 and may issue permits for the burning of any agricultural waste, if all of the following criteria are met:

1. The Board determines that there is no economically feasible alternative means of eliminating the waste.
2. The Board determines that there is no long-term federal or state funding commitment for the continued operation of biomass facilities in the San Joaquin Valley or development of alternatives to burning.
3. The Board determines that the continued issuance of permits for that specific category or crop will not cause, or substantially contribute to, a violation of an applicable federal ambient air quality standard.
4. The California Air Resources Board concurs with the Board's determinations pursuant to this section.

Section 6.1 - Open Burn Permits, stipulates that no open burning shall be conducted or allowed unless the applicant provides all required information and obtains the appropriate permits from the APCO and other agencies with jurisdiction. Only material clearly described and quantified in the permit may be burned. Burning shall be conducted in accordance with the requirements of the permit and is only allowed on days specified by the District.

According to the information supplied by the applicant, this agricultural facility produces alfalfa, corn, and wheat and other grains. The District has not determined that these crops qualify for the postponement of prohibition of open burning provided in Section 5.5.2. Therefore, burning of the agriculture residues produced at this facility is prohibited. The information provided in the applicant's Conservation Management Practice (CMP) Plan for compliance with District Rule 4550 states that no burning of agricultural waste occurs at this facility.

The District's burn permit program will continue to ensure ongoing compliance with the requirements of this rule.

14. District Rule 4201 – Particulate Matter Concentration

The purpose of this rule is to protect the ambient air quality by establishing a particulate matter emission standard. Section 3.1 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

The table below lists the condition on each permit that ensures compliance with this rule.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	5
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	21

15. District Rule 4550 - Conservation Management Practices

This rule applies to agricultural operation sites located within the San Joaquin Valley Air Basin. The purpose of this rule is to limit fugitive dust emissions from agricultural operation sites.

Pursuant to Section 5.1, effective on and after July 1, 2004, an owner/operator shall implement the applicable CMPs selected pursuant to Section 6.2 for each agricultural operation site.

Pursuant to Section 5.2, an owner/operator shall prepare and submit a CMP application for each agricultural operation site, pursuant to Section 6.0, to the APCO for approval. The facility has submitted a CMP application for each of their agricultural site, and is therefore in compliance.

Pursuant to Section 5.3, except as provided by Section 5.4, an owner/operator shall implement the CMPs as contained in the CMP Plan approved pursuant to Section 6.0 for each agricultural operation site no later than ten (10) days after notification by the APCO of the approval of the CMP Application.

Pursuant to Section 6.2, an owner/operator shall select one CMP from the CMP list for each of the applicable CMP categories.

Pursuant to Section 6.2.3, an owner/operator may select a substitute CMP from another CMP category when no feasible CMP can be identified from one category. This provision does not apply for the unpaved road, and unpaved vehicle/equipment traffic area CMP categories.

Pursuant to Section 6.3, an owner/operator shall submit a CMP Application, prepared pursuant to Section 6.1, to the APCO: 1) within 90 days for an agricultural operation site or an agricultural parcel that is acquired or becomes subject to the provisions of Section 5.0 after October 31, 2004, 2) within 60 days of any operational, administrative, or other modification that necessitates the revision of the CMP Plan.

Pursuant to Section 6.5.1, an owner/operator subject to Section 5.0 shall maintain a copy of each CMP application, CMP plan, and any supporting information necessary to confirm the implementation of the CMPs for a minimum of five (5) years.

- Condition 41 of the requirements of the facility-wide permit ensures compliance with this rule.

16. District Rule 4601 – Architectural Coatings

This rule limits the emissions of VOCs from architectural coatings. It requires limiting the application of any architectural coating to no more than what is listed in the Table of Standards (Section 5.0). This rule further

specifies labeling requirements, coatings thinning recommendations and storage requirements.

- Conditions 23, 24, and 25 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

17. District Rule 4621 - Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants

The purpose of this rule is to limit VOC emissions from stationary storage containers, delivery vessels, and bulk plants and to provide the administrative requirements for determining compliance with this rule.

On October 30, 2009, EPA finalized approval of the December 20, 2007 version of District Rule 4621.

On December 19, 2013, the District amended Rule 4621 to remove ARB certification requirements for a California Air Resources Board (ARB) certified vapor recovery system for aviation gasoline bulk loading operations; because, ARB does not certify such operations.

Because the amendment to District Rule 4621 does not affect the requirements for the permit units at this facility, the changes will not be addressed further in this evaluation.

Per Section 4.1 except for the provisions of Section 6.1.1, the transfer of gasoline into any stationary storage container with a capacity of 550 gallons or less used primarily for the fueling of implements of husbandry, if such container is equipped with a permanent submerged fill pipe shall be exempt from this rule. Section 6.1.1 requires that all data necessary to demonstrate qualifications for the exemptions allowed in this rule shall be maintained on the premise at all times and shall be submitted for District, ARB, or EPA review upon request. Such records shall include exemption status and volume delivered to each stationary storage container serviced.

a. *C-5370-18-1: AGRICULTURAL GASOLINE DISPENSING OPERATION WITH ONE 500 GALLON PHASE I EXEMPT ABOVEGROUND STORAGE TANK AND 1 FUELING POINT WITH 1 PHASE II EXEMPT GASOLINE DISPENSING NOZZLE USED EXCLUSIVELY FOR IMPLEMENTS OF HUSBANDRY*

  - Conditions 1 and 2 of the requirements for this permit unit ensure compliance with this rule.

18. District Rule 4622 - Gasoline Transfer into Motor Vehicle Fuel Tanks

The purpose of this rule is to limit emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks.

On October 30, 2009, EPA finalized approval of the December 20, 2007 version of District Rule 4622.

On December 19, 2013, the District amended Rule 4622 to incorporate an exemption from requiring Phase II vapor recovery systems for E85 (85% ethanol and 15% gasoline) fuel dispensing facilities. Flexible Fuel Vehicles (FFVs) that use E85 fuel are equipped with an Onboard Refueling Vapor Recovery (ORVR) system. As ORVR essentially performs the same function as a Phase II vapor recovery system and each system is required to achieve a minimum vapor control efficiency of 95%, Phase II vapor recovery systems are redundant and unnecessary when fueling ORVR-equipped vehicles. Therefore, the removal of Phase II vapor recovery system for E85 fuel dispensing operation would not result in relaxing current rule requirements and would not result in an increase in emissions.

Because the amendment to District Rule 4622 does not affect the requirements for the permit units at this facility, the changes will not be addressed further in this evaluation.

This rule applies to any gasoline storage and dispensing facility at which gasoline is transferred into motor vehicle fuel tanks except as provided in Section 4.0 (Exemptions).

Section 4.2 stipulates that the requirements of this rule shall not apply to gasoline storage containers that are exempt pursuant to Section 4.0 of Rule 4621 (Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants).

As stated above, Section 4.1 of District Rule 4621 exempts the gasoline dispensing operation at this agricultural production facility from certain requirements because it is primarily used to fuel instruments of husbandry and is equipped with a submerged fill pipe; therefore it is exempt from the requirements of District Rule 4622.

19. District Rule 4701 – Internal Combustion Engines–Phase 1

Pursuant to Section 2.0, this rule applies to any internal combustion engine with a rated horsepower (hp) greater than 50 hp; therefore, the IC engine located at this facility is subject to this rule. However, Section 4.1 of the rule specifically exempts IC engines in agricultural operations used for the growing of crops or raising of fowl or animals. Since theses

engines are used for the growing of crops or raising of fowl or animals, they are exempt from the requirements of this rule.

The table below lists the condition on each permit that ensures compliance with this rule.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	1
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	1

20. District Rule 4702 – Internal Combustion Engines–Phase 2

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_X), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. This rule applies to any internal combustion (IC) engine with a rated brake horsepower greater than 50 horsepower.

Section 5.2.3 requires that the owner of a spark-ignited internal combustion engine used exclusively in agricultural operations shall not operate it in such a manner that results in emissions exceeding the limits in the table below for the appropriate engine type according to the compliance schedules listed in Section 7.0:

Rule 4702 Section 5.2.3, Table 3			
Engine Type	NO_x	CO	VOC
1. Rich burn	90 ppmv or 80% reduction	2000 ppmv	250 ppmv
2. Lean burn	150 ppmv or 70% reduction	2000 ppmv	750 ppmv
3. Certified and installed on or before June 16, 2005	Meet Certified Spark-Ignited Engine Standard of HC+NOx < 0.6 g/bhp-hr		

The table below lists the conditions that ensure compliance with this section.

Unit	Condition #'s
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	8 and 10
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	18 and 20

Per Section 5.7 on and after the compliance schedule specified in Section 7.5, operators of non-AO spark-ignited engines and non-AO compression-ignited engines shall comply with one of the following requirements:

- 5.7.1 Operate the engine exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases; or
- 5.7.2 Limit gaseous fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- 5.7.3 Use California Reformulated Gasoline for gasoline-fired spark-ignited engines; or
- 5.7.4 Use California Reformulated Diesel for compression-ignited engines; or
- Operate the engine on liquid fuel that contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.4.6; or
- 5.7.6 Install and properly operate an emission control system that reduces SO_2 emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

The table below lists the condition that ensures compliance with this section.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	6
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	7

Per Section 5.9.1 the operator of an AO spark-ignited engine subject to the requirements of Section 5.2 shall comply with the requirements specified in Section 5.9.2 through Section 5.9.5 below:

Per Section 5.9.2 properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

Per Section 5.9.3 monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

Per Section 5.9.4 install and operate a nonresettable elapsed time meter.
- 5.9.4.1 In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by a Permit-to-Operate or Permit-Exempt Equipment Registration condition.
- 5.9.4.2 The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions.

Per Section 5.9.5 the operator of an AO spark-ignited engine that has been retro-fitted with a NOx exhaust control that has not been certified in accordance with Section 9.0 Exhaust Control System Certification Requirements, or a compression-ignited engine that has been retro-fitted with a NOx exhaust control shall comply with the following:
- Use a portable NOx analyzer to take NOx emission readings to demonstrate compliance with the emission requirements of Section 5.2.
- The operator of a compression-ignited engine that is subject to the limits/standards of Section 5.2 Table 4 Category 1.d shall use a portable NOx analyzer to take NOx emission readings at least once every six (6) months that the engine is operated.
- The operator of any other engine that has been retro-fitted with a NOx exhaust control shall use a portable NOx analyzer to take NOx emission readings at least once every 24 months that the engine is operated.
- All emission readings shall be taken with the engine operating either at conditions representative of normal operations or conditions specified in the Permit-to-Operate or Permit-Exempt Equipment Registration.
- The portable NOx analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO.
- All NOx emissions readings shall be reported to the APCO in a manner approved by the APCO.
- NOx emission readings taken pursuant to this section shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least

five (5) readings evenly spaced out over the 15 consecutive-minute period.

The table below lists the conditions that ensure compliance with this section.

Unit	Condition #'s
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	2, 4,11,18,19
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	5, 6, and 7

Per Section 6.2.1 the operator of an engine subject to the requirements of Section 5.2 of this rule shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.

Per Section 6.2.2 the data collected pursuant to the requirements of Section 5.8 and Section 5.9 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

Per Section 6.3 engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0 Demonstrate compliance with applicable limits, ppmv or percent reduction, in accordance with the test methods in Section 6.4,at least once every 60 months for an AO spark-ignited engine that has been retro-fitted with a catalytic emission control device.

Unit	Condition #'s
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	13 thru 16, 22, 25
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	23 and 26

Per Section 6.0 the operator of an engine that is subject to the requirements of Section 5.2 or the requirements of Section 8.0 shall submit to the APCO for approval, an I&M plan that specifies all actions to be taken to satisfy the following requirements and the requirements of Section 5.8. The actions to be identified in the I&M plan shall include, but are not limited to, the information specified below. If there is no change to the previously approved I&M plan, the operator shall submit a letter to the District indicating that previously approved plan is still valid.

6.5.1 The requirements of Section 6.5.2 through Section 6.5.9 shall apply to the following engines:

- Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- Engines subject to Section 8.0;
- An AO spark-ignited engine that is subject to the requirements of Section 8.0.
- An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

Unit	Condition #
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	23

The following conditions will ensure the Certified Lambda Management System will maintain its certification as outlines in Section 9.0 of this rule.

Unit	Condition #'s
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	2, 8 thru 12

21. District Rule 8011, 8021, 8031, 8041, 8051, 8061, and 8071 – SJVUAPCD Regulation VIII - Fugitive Dust (PM10)

These regulations contain requirements for the control of fugitive dust. These requirements apply to various sources, including construction, demolition, excavation, extraction, mining activities, outdoor storage piles, paved and unpaved roads.

- Conditions 29 through 34 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

22. District Rule 8081 - Agricultural Sources

The purpose of this rule is to limit fugitive dust emissions from agricultural sources. This rule applies to off-field agricultural sources.

Section 5.0 requires that an owner or operator shall comply with Sections 5.1 through 5.3 of Rule 8081 and sufficiently implement at least one of the control measures indicated in each section of Table 8081-1 to limit Visible Dust Emissions (VDE) to 20% opacity or to comply with the conditions for a stabilized surface as defined in Rule 8011. In addition to the requirements of this rule, a person shall comply with all other applicable requirements of Regulation VIII.

- Condition 35 of the requirements of the facility-wide permit ensures compliance with this rule.

23. 40 CFR 61, Subpart M – National Emission Standard for Asbestos

There are applicable requirements from the National Emissions Standards for Hazardous Air Pollutants that apply to all sources in general. These requirements pertain to asbestos removal and disposal from renovated or demolished structures.

- Condition 36 on the Facility-Wide requirements for the proposed permit ensures compliance with this rule.

24. CFR 60 Subpart JJJJ – Standards for Performance for Stationary Spark Ignited Internal Combustion Engines

The purpose of 40 CFR 60 Subpart JJJJ is to establish New Source Performance Standards (NSPS) to reduce emissions of NO_X, SO_X, PM, CO, and VOC from new stationary reciprocating spark ignited IC engines.

This subpart, however, does not apply to the spark ignited IC engines at this facility since the engines were installed prior to the July 12, 2006 applicability date.

25. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and

area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

§63.6585 states an owner or operator is subject to this subpart if it owns or operates a stationary RICE at a major or area source of HAP emissions.

§63.6585(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

§63.6585(c) An area source of HAP emissions is a source that is not a major source.

- This facility is an area source of HAP emissions since it is not a major source of HAP per §63.6585(b).

§63.6590(a)(1)(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

- Permit units C-5370-1-2 thru -17-2 are existing stationary RICE since they commenced construction before June 12, 2006.

§63.6595(a)(1) An existing stationary CI RICE located at an area source of HAP emissions must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

§63.6603(a) An existing stationary RICE located at an area source of HAP emissions must comply with the applicable requirements in Table 2d to this subpart.

Table 2d to Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each	You must meet the following requirement, except during periods of startup	During periods of startup you must
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	--

[1] Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

§63.66259(e) The operator shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions

§63.6655(a) If you must comply with the emission and operating limitations, you must keep the records described in the following paragraphs (a)(1) through (a)(5).

(a)(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(a)(2) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(a)(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(a)(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(a)(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

See the table below for the demonstration of compliance for each unit.

Unit	Condition #'s
C-5370-1-2 and -2-2: 275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	25 thru 34
C-5370-4-2, -5-2, -6-2, -7-2, -8-2, -9-2, -10-2, -11-2, -12-2, -13-2, -14-2, -15-2 and -17-2: VARIOUS HP NATURAL GAS-FIRED IC ENGINE WITH CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP	26 thru 35

26. 40 CFR Part 64 – Compliance Assurance Monitoring

40 CFR Part 64 requires Compliance Assurance Monitoring (CAM) for units that meet the following three criteria:

1) the unit must have an emission limit for the pollutant;
2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, and catalytic oxidizers; and
3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

Pollutant	Major Source Threshold (lb/year)
VOC	20,000
NO_X	20,000
CO	200,000
PM_{10}	140,000
SO_X	140,000

Demonstration of compliance with Compliance Assurance Monitoring (CAM) is not required in Initial Title V Permits for units that are not "Large

pollutant-specific emissions units". Large pollutant-specific emissions units are units with a potential to emit after controls that are equal to or greater than a major source threshold. For large pollutant-specific emissions units (i.e. units with post-control emissions equal to or greater than a major source threshold) demonstration of compliance with CAM is required in the Initial Title V permit.

As demonstrated below the permit units at this facility have a post control potential to emit less than the major source threshold. Therefore, compliance with CAM is not required at this time.

Post-Control Potential to Emit Calculations:

All the natural gas-fired engines at this facility have the same emission limits and are each limited to operation 6,000 hr/year. Therefore, emissions will be calculated for largest engine as worst case scenario. By showing the emissions from the largest engine are below the major source threshold then the post-control emissions from all other engines at the facility are also below the major source thresholds.

Per current PTO C-5370-1-1 for a 275 hp natural gas-fired IC engine the emission shall not exceed the following limits,

Pollutant	Post-Control Emission Factor (g/bhp-hr)
VOC	1.2
NO_X	1.3
CO	17.0
PM_{10}	0.75
SO_X	0.00285

PE (lb/hr) = Emission Factor (g/bhp-hr) x Rating (bhp) x Operating Schedule (hr/year) x 453.6 g/lb

Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE Total (lb/yr)
VOC	1.2	275	6,000	453.6	4,365
NO_X	1.3	275	6,000	453.6	4,729
CO	17.0	275	6,000	453.6	61,839
PM_{10}	0.75	275	6,000	453.6	2,728
SO_X	0.00285	275	6,000	453.6	10

27. 40 CFR Part 82, Subpart B and F – Stratospheric Ozone

There are applicable requirements from Title VI of the CAA (Stratospheric Ozone) that apply to all sources in general. These requirements pertain to air conditioners, chillers, and refrigerators located at a Title V source and to disposal of air conditioners or maintenance/recharging/disposal of motor vehicle air conditioners (MVAC).

- Conditions 27 and 28 on the Facility-Wide requirements for the proposed permit ensure compliance with this rule.

X. PERMIT SHIELD

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Operating Permit is considered compliance with all applicable requirements upon which those conditions are based, including those that have been subsumed.

A. Requirements Addressed by Model General Permit Templates

The applicant has not requested to utilize any model general permit templates.

B. Requirements not Addressed by Model General Permit Templates

The applicant has not requested permit shield for any requirements not addressed by model general permit templates.

XI. PERMIT CONDITIONS

See draft operating permit beginning on the following page.

San Joaquin Valley
Air Pollution Control District

FACILITY: C-5370-0-1 **EXPIRATION DATE:** 12/31/2009

FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100; Fresno County Rule 110] Federally Enforceable Through Title V Permit
2. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100; Fresno County Rule 110] Federally Enforceable Through Title V Permit
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160] Federally Enforceable Through Title V Permit
4. Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rule 2010; and 2020] Federally Enforceable Through Title V Permit
5. The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070; 2080; and 2520] Federally Enforceable Through Title V Permit
6. A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520] Federally Enforceable Through Title V Permit
9. The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520] Federally Enforceable Through Title V Permit

11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520 and 1100] Federally Enforceable Through Title V Permit

12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520] Federally Enforceable Through Title V Permit

13. It shall not be a defense for a 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 the permit. [District Rule 2520] Federally Enforceable Through Title V Permit

14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520] Federally Enforceable Through Title V Permit

15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520] Federally Enforceable Through Title V Permit

16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520] Federally Enforceable Through Title V Permit

17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520] Federally Enforceable Through Title V Permit

18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit

19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rules 1070 and 2520] Federally Enforceable Through Title V Permit

20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520] Federally Enforceable Through Title V Permit

21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520] Federally Enforceable Through Title V Permit

22. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

23. No person shall manufacture, blend, repackage, supply, sell, solicit or apply any architectural coating with a VOC content in excess of the corresponding limit specified in Table of Standards 1 effective until 12/30/10 or Table of Standards 2 effective on and after 1/1/11 of District Rule 4601 (12/17/09) for use or sale within the District. [District Rule 4601] Federally Enforceable Through Title V Permit

24. All VOC-containing materials subject to Rule 4601 (12/17/09) shall be stored in closed containers when not in use. [District Rule 4601] Federally Enforceable Through Title V Permit

25. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit

26. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520] Federally Enforceable Through Title V Permit

27. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit

28. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit

29. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8021 and 8011] Federally Enforceable Through Title V Permit

30. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8031 and 8011] Federally Enforceable Through Title V Permit

31. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8041 and 8011] Federally Enforceable Through Title V Permit

32. Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8051 and 8011] Federally Enforceable Through Title V Permit

33. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8061 and 8011] Federally Enforceable Through Title V Permit

34. Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rules 8071 and 8011] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

35. The owner or operator shall comply with Sections 5.1 through 5.3 of District Rule 8081 and shall sufficiently implement at least one of the control measures indicated in each section of Table 8081-1 to limit Visible Dust Emissions to 20% opacity or to comply with the conditions for a stabilized surface as defined in Rule 8011, unless specifically exempted under Section 4.0 of Rule 8081 (9/16/2004) or Rule 8011 (8/19/2004). The owner or operator shall also comply with all applicable requirements of Regulation VIII unless specifically exempted by the applicable rules. [District Rules 8081and 8011] Federally Enforceable Through Title V Permit

36. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit

37. The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520] Federally Enforceable Through Title V Permit

38. The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520] Federally Enforceable Through Title V Permit

39. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520] Federally Enforceable Through Title V Permit

40. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

41. The owner or operator shall implement the applicable conservation management practices (CMP) selected in the approved CMP plan pursuant to Section 6.2 of District Rule 4550 (8/19/04). The owner or operator shall submit a CMP application to the APCO prepared pursuant to Section 6.1 of District Rule 4550 (8/19/04) within 90 days for an agricultural operation site or an agricultural parcel that is acquired or becomes subject to District Rule 4550 and within 60 days of any operational, administrative, or other modification that necessitates revision of the CMP Plan. The owner or operator shall maintain a copy of each CMP application, CMP plan, and any supporting information necessary to confirm the implementation of the CMPs for a minimum of five (5) years. [District Rule 4550] Federally Enforceable Through Title V Permit

42. This permit does not authorize the violation of any conditions established for this facility in the Conditional Use Permit (CUP), Special Use Permit (SUP), Site Approval, Site Plan Review (SPR), or other approval documents issued by a local, state, or federal agency. [Public Resources Code 21000-21177: California Environmental Quality Act]

43. On MONTH DAY, YEAR, the initial Title V permit was issued. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report are based upon this initial permit issuance date, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period [District Rule 2520] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-1-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
7. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd NOx @ 15% O2 (equivalent to 1.3 g-NOx/hp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
9. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/hp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/hp-hr) or 250 ppmvd VOC @ 15% O2 (equivalent to 1.2 g-VOC/hp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
11. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
12. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Source testing to measure NOx, CO, and VOC emissions shall be conducted at least once every 60 months. If fueled exclusively with PUC quality natural gas, the engine is not subject to the reoccurring source test requirements for VOC emissions. [District Rule 4702] Federally Enforceable Through Title V Permit

14. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit

15. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit

16. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit

17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

18. The permittee shall monitor and record the stack concentration of NOx and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

20. If either the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

21. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

22. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

23. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit

24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

25. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit

26. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

27. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

28. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

29. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

30. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

31. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

32. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

33. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

34. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-2-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
6. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
7. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd NOx @ 15% O2 (equivalent to 1.3 g-NOx/hp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
9. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/hp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/hp-hr) or 250 ppmvd VOC @ 15% O2 (equivalent to 1.2 g-VOC/hp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
11. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
12. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Source testing to measure NOx, CO, and VOC emissions shall be conducted at least once every 60 months. If fueled exclusively with PUC quality natural gas, the engine is not subject to the reoccurring source test requirements for VOC emissions. [District Rule 4702] Federally Enforceable Through Title V Permit

14. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702] Federally Enforceable Through Title V Permit

15. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit

16. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit

17. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

18. The permittee shall monitor and record the stack concentration of NOx and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

20. If either the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

21. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

22. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

23. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit

24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

25. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit

26. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

27. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

28. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

29. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

30. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

31. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

32. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

33. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

34. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-4-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-5-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-6-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-7-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-9-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
200 HP CUMMINS MODEL G855 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-10-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-11-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-12-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-13-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-14-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-15-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-17-2 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701] Federally Enforceable Through Title V Permit
2. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702] Federally Enforceable Through Title V Permit
3. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
5. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702] Federally Enforceable Through Title V Permit
6. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
8. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702] Federally Enforceable Through Title V Permit
10. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702] Federally Enforceable Through Title V Permit

12. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702] Federally Enforceable Through Title V Permit

13. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

14. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

15. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

16. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702] Federally Enforceable Through Title V Permit

17. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit

18. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702] Federally Enforceable Through Title V Permit
21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 4702 and 40 CFR 63, ZZZZ] Federally Enforceable Through Title V Permit
27. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
28. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
29. The engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
30. The engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
31. The engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
32. The permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
33. The permittee shall maintain monthly records of all performance tests and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
34. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-18-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
AGRICULTURAL GASOLINE DISPENSING OPERATION WITH ONE 500 GALLON PHASE I EXEMPT ABOVEGROUND STORAGE TANK AND 1 FUELING POINT WITH 1 PHASE II EXEMPT GASOLINE DISPENSING NOZZLE USED EXCLUSIVELY FOR IMPLEMENTS OF HUSBANDRY

PERMIT UNIT REQUIREMENTS

1. {199} The storage tank(s) shall be equipped with submerged fill pipes. [District Rule 4621]
2. The storage tank shall be used for fueling implements of husbandry. [District Rule 4621]
3. The gasoline storage and dispensing equipment shall not be used to refuel any self-propelled vehicle registered for use on the highways. [District Rule 4622]

Attachment A

Detailed Facility Printout

Detailed Facility Report

For Facility=5370 and excluding Deleted Permits
Sorted by Facility Name and Permit Number

LOVELACE & SONS FARMING
42005 S ALPINE AVE
COALINGA, CA 93210

FAC # **C 5370**
STATUS: **A**
TELEPHONE:

TYPE: **TitleV**
TOXIC ID:

EXPIRE ON: 12/31/2009
AREA: 5 / 314
INSP. DATE: 10/15

PERMIT NUMBER	FEE DESCRIPTION	FEE RULE	QTY	FEE AMOUNT	FEE TOTAL	PERMIT STATUS	EQUIPMENT DESCRIPTION
C-5370-1-1	275 bhp	3020-10 C	1	240.00	240.00	A	275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-2-1	275 bhp	3020-10 C	1	240.00	240.00	A	275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-4-1	250 bhp	3020-10 C	1	240.00	240.00	A	250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-5-1	250 bhp	3020-10 C	1	240.00	240.00	A	250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-6-1	250 bhp	3020-10 C	1	240.00	240.00	A	250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-7-1	250 bhp	3020-10 C	1	240.00	240.00	A	250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-9-1	200 bhp	3020-10 C	1	240.00	240.00	A	200 HP CUMMINS MODEL G855 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-10-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-11-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-12-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-13-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-14-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-15-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

Detailed Facility Report

For Facility=5370 and excluding Deleted Permits
Sorted by Facility Name and Permit Number

PERMIT NUMBER	FEE DESCRIPTION	FEE RULE	QTY	FEE AMOUNT	FEE TOTAL	PERMIT STATUS	EQUIPMENT DESCRIPTION
C-5370-17-1	90 bhp	3020-10 A	1	80.00	80.00	A	90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP
C-5370-18-0	1 Nozzle	3020-11 A	1	34.00	34.00	A	AGRICULTURAL GASOLINE DISPENSING OPERATION WITH ONE 500 GALLON PHASE I EXEMPT ABOVEGROUND STORAGE TANK AND 1 FUELING POINT WITH 1 PHASE II EXEMPT GASOLINE DISPENSING NOZZLE USED EXCLUSIVELY FOR IMPLEMENTS OF HUSBANDRY

Number of Facilities Reported: 1

Attachment B

Current Permits

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Permit to Operate

FACILITY: C-5370 **EXPIRATION DATE:** 12/31/2009

LEGAL OWNER OR OPERATOR: LOVELACE & SONS FARMING
MAILING ADDRESS: PO BOX 776
COALINGA, CA 93210

FACILITY LOCATION: 42005 S ALPINE AVE
COALINGA, CA 93210

FACILITY DESCRIPTION: AGRICULTURAL CROP PRODUCTION

The Facility's Permit to Operate may include Facility-wide Requirements as well as requirements that apply to specific permit units.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require prior District approval. This permit shall be posted as prescribed in District Rule 2010.

Seyed Sadredin
Executive Director / APCO

Arnaud Marjollet
Director of Permit Services

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726 • (559) 230-5900 • Fax (559) 230-6061

San Joaquin Valley
Air Pollution Control District

FACILITY: C-5370-0-0 **EXPIRATION DATE:** 12/31/2009

FACILITY-WIDE REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-1-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
3. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
4. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
8. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
9. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd NOx @ 15% O2 (equivalent to 1.3 g-NOx/hp-hr). [District Rule 4702]
10. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/hp-hr. [District Rule 2201]
11. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/hp-hr) or 250 ppmvd VOC @ 15% O2 (equivalent to 1.2 g-VOC/hp-hr). [District Rule 4702]
12. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Source testing to measure NOx, CO, and VOC emissions shall be conducted at least once every 60 months. If fueled exclusively with PUC quality natural gas, the engine is not subject to the reoccurring source test requirements for VOC emissions. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

16. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

17. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

19. The permittee shall monitor and record the stack concentration of NOx and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

20. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

21. If either the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

22. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]

24. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

25. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]

26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

27. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]

28. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-2-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
275 HP CUMMINS MODEL GTA855A NATURAL GAS-FIRED IC ENGINE WITH LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
3. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
4. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
8. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
9. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd NOx @ 15% O2 (equivalent to 1.3 g-NOx/hp-hr). [District Rule 4702]
10. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/hp-hr. [District Rule 2201]
11. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/hp-hr) or 250 ppmvd VOC @ 15% O2 (equivalent to 1.2 g-VOC/hp-hr). [District Rule 4702]
12. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. Source testing to measure NOx, CO, and VOC emissions shall be conducted at least once every 60 months. If fueled exclusively with PUC quality natural gas, the engine is not subject to the reoccurring source test requirements for VOC emissions. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]

16. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

17. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

19. The permittee shall monitor and record the stack concentration of NOx and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

20. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

21. If either the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

22. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

23. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]

24. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]

25. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]

26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

27. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]

28. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-4-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]
13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]
14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]
15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]
16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]
18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-5-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-6-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-7-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
250 HP CUMMINS MODEL GTA12 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-9-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
200 HP CUMMINS MODEL G855 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-10-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-11-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-12-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-13-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-14-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-15-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-17-1 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
90 HP CUMMINS MODEL GM454 NATURAL GAS-FIRED IC ENGINE WITH A CERTIFIED LAMBDA MANAGEMENT SYSTEM POWERING AN AGRICULTURAL PUMP

PERMIT UNIT REQUIREMENTS

1. This IC engine shall only be used for the growing of crops or raising of fowl or animals. [District Rule 4701]
2. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 1070]
3. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 1070]
4. The add-on emission control system (hereinafter referred to as the "Lambda Management System") shall consist of a Johnson-Matthey Model CXX8-4 3-way catalyst module, a Gas Systems Model LMS-MF-2D1 air/fuel ratio controller ("Lambda Management Controller"), and a Bosch Model LSU 4.2 oxygen sensor. [District Rule 4702]
5. The Lambda Management System shall be installed, maintained and operated according to Lambda's recommendations and shall be in place and operating at all times during engine operation. [District Rule 4702]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer. [District Rule 4702]
8. During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
9. This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
10. The oxygen sensor shall be replaced at least once every 2,000 hours of operation. Whenever the oxygen sensor is replaced, the new oxygen sensor shall be calibrated according to the procedures outlined by Lambda prior to engine operation. [District Rule 4702]
11. The catalyst module shall be washed according to manufacturer recommendations or replaced as necessary at least once every 8,000 hours of operation. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. The operator shall perform monthly inspections of the Lambda Management System. The monthly inspection shall ensure the system is operating correctly, i.e. the wiring, installation, and indicator lights are all visibly compliant per Lambda's recommendation. The operator shall monitor the lambda management controller and record any adjustments necessary to return the system to the optimum lambda setting (green light) at least once every month. Monitoring shall be performed with the engine operating at conditions representative of normal source operations. Monitoring shall not be required if the engine is not in operation during any one calendar month, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within a week of restarting the engine unless monitoring has been performed within the last calendar month. Records shall be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

13. If the lambda setting is either fuel lean (yellow light) or fuel rich (red light), the operator shall adjust the lambda management controller as necessary to return the system to the optimum lambda setting (green light) as soon as possible, but no longer than eight hours after detection. If the lambda setting cannot be returned to the optimum lambda setting within eight hours after detection, the operator shall notify the District and shut the engine down within the following hour, and shall not operate the engine until after making all necessary repairs to return the system to green light status. [District Rule 4702]

14. The operator shall maintain records of: 1.) The date and time of the lambda management controller monitoring, the lambda setting (e.g. green, yellow, or red light), and a description of any adjustments made to return the system to the optimum lambda setting (green light); 2.) The date and engine hour meter reading at each oxygen sensor change and a description of the oxygen sensor calibration procedures used; and 3.) The date and engine hour meter reading of each catalyst module washing or replacement. [District Rule 4702]

15. The permittee shall monitor and record the stack concentration (pre- and post-catalyst, if using percent reduction to demonstrate compliance) of NOx and O2 at least once every 60 months using a portable emissions monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

16. When using exhaust concentration to demonstrate compliance, if the NOx concentration corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

17. When using percent reduction to demonstrate compliance, if the percent reduction (using NOx concentrations, as measured by the portable analyzer, corrected to 15% O2) is less than 80%, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to demonstrate percent reduction less than 80% after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]

18. If compliance is based on the percent reduction allowance, then the exhaust system shall be equipped with adequate sampling ports located both upstream and downstream of the catalyst module. Each sampling port shall be located at least 1/2 duct diameter upstream and at least 2 duct diameters downstream of any bend, diameter change or stack obstruction. [District Rule 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

19. All monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. NOx emissions from this IC engine shall be reduced by 80% or not exceed 90 ppmvd-NOx @ 15% O2 (equivalent to 1.3 g-NOx/bhp-hr). [District Rule 4702]
21. PM10 emissions from this IC engine shall not exceed 0.075 g-PM10/bhp-hr. [District Rule 2201]
22. Emissions from this IC engine shall not exceed any of the following limits: 2,000 ppmvd CO @ 15% O2 (equivalent to 17.0 g-CO/bhp-hr) or 250 ppmvd-VOC @ 15% O2 (equivalent to 1.2 g-VOC/bhp-hr). [District Rule 4702]
23. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
24. Operation of this engine shall not exceed 6,000 hours per year. [District Rule 2201]
25. The owner/operator shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance. [District Rule 4702]
26. The permittee shall record the total time the engine operates, in hours per calendar year. [District Rule 2201]
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
28. The District may revise and/or add requirements in the future as necessary to ensure the Lambda Management System operates according to its certification requirements. [District Rule 4702]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-5370-18-0 **EXPIRATION DATE:** 12/31/2009

EQUIPMENT DESCRIPTION:
AGRICULTURAL GASOLINE DISPENSING OPERATION WITH ONE 500 GALLON PHASE I EXEMPT ABOVEGROUND STORAGE TANK AND 1 FUELING POINT WITH 1 PHASE II EXEMPT GASOLINE DISPENSING NOZZLE USED EXCLUSIVELY FOR IMPLEMENTS OF HUSBANDRY

PERMIT UNIT REQUIREMENTS

1. The storage tank(s) shall be equipped with submerged fill pipes. [District Rule 4621]
2. The storage tank shall be used for fueling implements of husbandry. [District Rule 4621]
3. The gasoline storage and dispensing equipment shall not be used to refuel any self-propelled vehicle registered for use on the highways. [District Rule 4622]