Santa Barbara County
Air Pollution Control District

PERMIT TO OPERATE 15074

And

PART 70 OPERATING PERMIT 15074

SIERRA RESOURCES - BARHAM RANCH STATIONARY SOURCE
IC ENGINE LEASE - BARHAM RANCH

LOS ALAMOS
SANTA BARBARA COUNTY, CALIFORNIA

OWNER/OPERATOR

Purisima Hills LLC / Sierra Resources, Inc. (Sierra Resources)

Santa Barbara County
Air Pollution Control District

August 2018

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ABBREVIATIONS/ACRONYMS

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

1.0 Introduction

1.1 Purpose

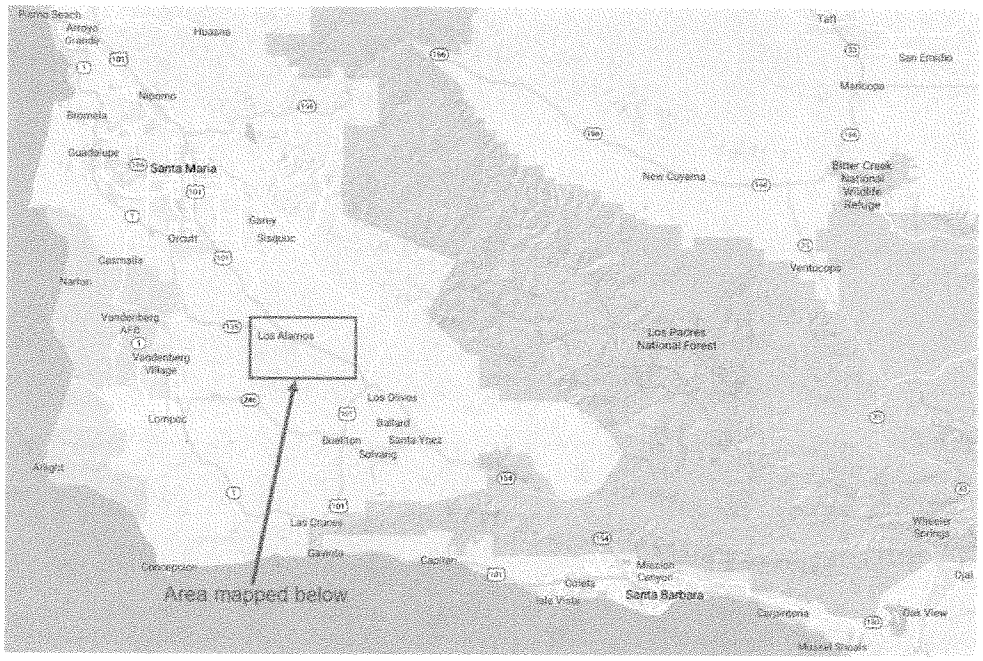
General: The Santa Barbara County Air Pollution Control District (District) is responsible for implementing all applicable federal, state and local air pollution requirements that affect any stationary source of air pollution in Santa Barbara County. The federal requirements include regulations listed in the Code of Federal Regulations: 40 CFR Parts 50, 51, 52, 55, 61, 63, 68, 70 and 82. The State regulations may be found in the California Health & Safety Code, Division 26, Section 39000 et seq. The applicable local regulations can be found in the District's Rules and Regulations. This is a combined permitting action that covers both the Federal Part 70 permit (*Part 70 Operating Permit 15074*) as well as the State Operating Permit (*Permit to Operate 15074*).

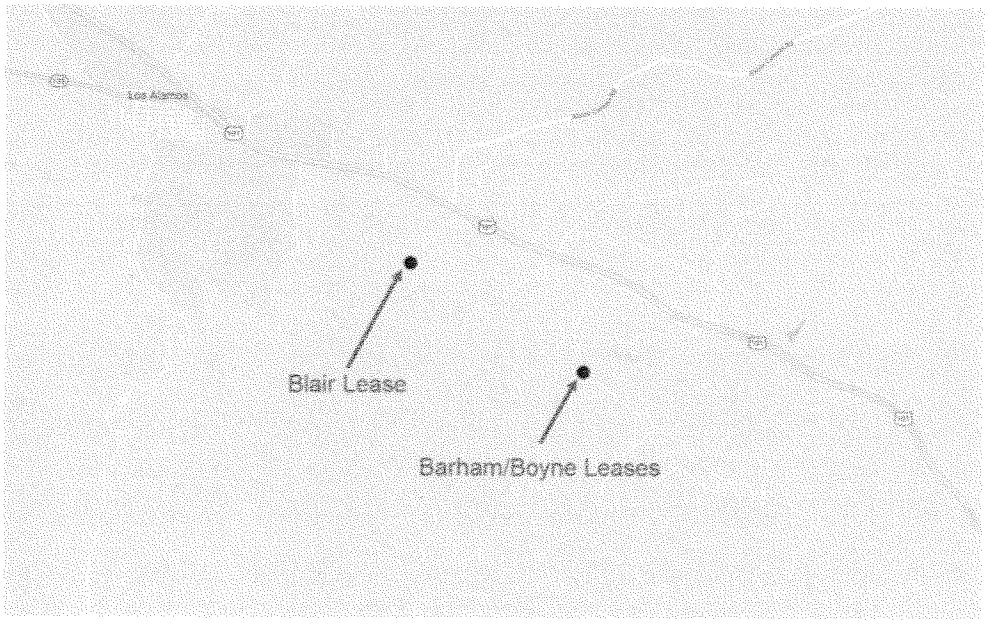
Part 70 Permitting: This is the initial Part 70 permit for the IC Engine equipment at the Barham /Boyne and Blair Leases and is being issued in accordance with the requirements of the District's Part 70 operating permit program. The internal combustion engines are a part of the Sierra Resources Barham Ranch Stationary Source, which is a major source of ROC and CO emissions. Conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the District, the USEPA and the public since these sections are federally-enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally-enforceable.

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

Greenhouse Gases - Rule 810. This reevaluation incorporates greenhouse gas emission calculations for the stationary source. These emissions establish baseline conditions under Rule 810, *Federal Prevention of Significant Deterioration.*

Figure 1.1 - Location Map for the Blair/Barham-Boyne Leases





1.2 Stationary Source / Facility Overview

1.2.1 General Overview: Purisima Hills LLC is the sole owner and Sierra Resources, Inc. is the operator of the Barham Ranch Stationary Source located in the city of Los Alamos, an unincorporated area of Santa Barbara County at is 9500 US Highway 101. For District regulatory purposes, it is in the Northern Zone of Santa Barbara County[1]. Figure 1.1 shows the location of the facility. The Barham Ranch Stationary Source became a Part 70 source as a result of a District determination in February 2017 that the Blair and the Barham/Boyne Leases comprised a single stationary source. The Barham Ranch Stationary Source (SSID 2638) was constructed in the early 1990s and is comprised of the following facilities:

- Blair Lease (FID 2637)
- Barham/Boyne Leases (FID 3777)
- IC Engines Lease (FID 11609)

The IC Engine Lease consists of the following:

- Twenty-Four Downhole Well Pumps
- One IC engine-driven Gas compressor

There are thirty-two (32) oil and gas wells located throughout the Barham Ranch Stationary Source Blair and Barham/Boyne leases. Twenty-four of these wells are equipped with downhole pumps driven by an internal combustion engine to enhance well productivity. There is also one IC engine driven generator. These IC engines are subject to this permit. The wells associated with these engines are permitted under separate permits.

1.2.2 Facility Permitting History: The engines subject to this permit were previously exempt from permit based on Rule 202.F.1.f (spark ignition ICEs < 50 bhp not to exceed an aggregate of 400 bhp). The engines are located on two leases; Blair Lease and Barham/Boyne Lease, formerly consisting of two separate stationary sources. These leases were subsequently determined to constitute a single stationary source (Barham Ranch) resulting in the loss of the permit exemption since the total brake horsepower of the engines exceed 400 bhp. Following submittal of the Pt70 application, a District determination was made that these engines would be permitted as a separate facility, therefore Facility Identification No. 116609 was created for this purpose.

1.3 Emission Sources

The emissions at the IC Engine facility consist of engine operation emissions. Section 4 of the permit provides the District's engineering analysis of these emission sources. Section 5 of the permit describes the allowable emissions from each permitted emissions unit and also lists the potential emissions from non-permitted emission units.

The emission sources include:

- 25 spark ignite internal combustion engines fired on produced field gas

A list of all permitted equipment is provided in Section 10.3.

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

1.4 Emission Control Overview

All 25 uncontrolled IC engines operating at the Barham Ranch stationary source have nameplate ratings less than 50 bhp. Consequently, these engines are not subject to the NO_x, CO, or ROC emission standards of District Rule 333.

1.5 Offsets/Emission Reduction Credit Overview

The Barham Ranch Stationary Source exceeds the offset thresholds of Regulation VIII for NO_x and CO emissions, however, this is a result of the District determination that the Blair and Barham/Boyne leases comprise a single stationary source. This permitting action is being treated as a loss of exemption due to this stationary source determination, and is therefore not subject to New Source Review, including emission offsets requirements.

1.6 Part 70 Operating Permit Overview

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

1.6.2 Insignificant Emissions Units: Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit's potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit's potential to emit. Insignificant activities were listed in the Part 70 permit application. See Attachment 10.5 for a list of insignificant units.

1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include emissions from any insignificant emissions units. (See Section 5.4 for the federal PTE for this source.

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

1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. Sierra Resources made no request for permitted alternative operating scenarios.

1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application and be re-submitted annually on the anniversary date of the permit or on a more frequent schedule specified in the permit. A "responsible official" of

the owner/operator company signs each certification whose name and address is listed prominently in the Part 70 permit. *(see Section 1.6.9 below)*

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

1.6.8 Hazardous Air Pollutants (HAPs): Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. The Barham Ranch Stationary Source is not considered a major source of HAPs. *(see Sections 4.12 and 5.5)*

1.6.9 Responsible Officials: The designated responsible official is:

Mr. Doug Eberts, Chief Financial Officer
Sierra Resources, Inc.
P. O. Box 2788
Mammoth Lakes, CA 93546

2.0 Process Description

2.1 Process Summary

2.1.1 Internal Combustion Engines: Twenty-five (25) spark ignited internal combustion engines, each rated by nameplate and less than 50 bhp (See Table 5.1-1). Twenty-four engines power downhole well pumps and one powers an electric generator. These engines are fired on produced field gas, and are not subject to Rule 333.

2.2 Support Systems

There are no additional support systems.

2.3 Maintenance/Degreasing Activities

2.3.1 Paints and Coatings: Intermittent surface coating operations are conducted throughout the facility for occasional structural and equipment maintenance needs, including architectural coating. Normally only touch-up and equipment labeling or tagging is performed. All architectural coatings used are in compliance with District Rule 323, as verified through the rule-required recordkeeping. These activities are not specifically addressed in this permit however they are addressed in the associated Blair and Barham/Boyne Lease permits.

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

2.4 Other Processes

2.5.1 Unplanned Activities/Emissions: Sierra Resources does not anticipate or foresee any circumstances that would require special equipment use resulting in excess emissions.

2.5 Detailed Process Equipment Listing

Refer to Attachment 10.3 for a complete listing of all permitted equipment.

3.0 Regulatory Review

This section identifies the federal, state and local rules and regulations applicable to the IC Engines Lease.

3.1 Rule Exemptions Claimed

District Rule 202 *Exemptions to Rule 201*: Sierra Resources requested the following exemptions under this rule. An exemption from permit, however, does not necessarily grant relief from any applicable prohibitory rule. The District approved the following exemptions:

- Abrasive Blasting Unit (Rule 202.H.3)
- Storage of Drums of Lubrication Oils (Rule 202.V.3)
- Storage of various types of oils with Initial Boiling Point 300° F or greater (Rule 202.V.1)
- Painting and Solvent Use for Maintenance Activities (Rule 202.D.8)

3.2 Compliance with Applicable Federal Rules and Regulations

3.2.1 40 CFR Parts 51/52 *{New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)}*: Compliance with District Regulation VIII (*New Source Review*), ensures that future modifications to the facility will comply with these regulations.

3.2.2 40 CFR Part 60 *{New Source Performance Standards}*: This facility is not currently subject to any NSPS.

3.2.3 40 CFR Part 61 *{NESHAP}*: This facility is not currently subject to the provisions of this Subpart.

3.2.4 40 CFR Part 63 *{MACT}*: This facility is not currently subject to the provisions of this Subpart.

3.2.5 40 CFR Part 64 *{Compliance Assurance Monitoring}*: This rule became effective on April 22, 1998 and affects emission units at the source subject to a federally enforceable emission limit or standard that use a control device to comply with the emission standard, and either pre-control or post-control emissions exceed the Part 70 source emission thresholds. There are no emission control devices used at this facility, therefore this facility is not subject to this subpart.

3.2.6 Subpart ZZZZ *{NESHAP - Stationary Internal Combustion Engines}:*
The revised National Emission Standard for Hazardous Air Pollutants (NESHAP) for reciprocating internal combustion engines (RICE) was published in the Federal Register on January 18, 2008. An affected source under the NESHAP is any existing, new, or reconstructed stationary RICE located at a major source or area source.

Subpart ZZZZ applies to owners and operators of stationary reciprocating IC engines (RICE). For area sources of HAP emissions, stationary RICE are existing if construction or reconstruction commenced before June 12, 2006. Since all RICE at this facility commenced construction before June 12, 2006, they are considered existing for the purpose of this Subpart.

Existing Spark Ignition RICE ≤ 500 Horsepower. Existing spark ignited RICE at area sources of HAP emissions must comply with the applicable emission and operating limits. Emission limits are not established for existing 4-stroke rich burn RICE ≤ 500 horsepower rating located at area sources of HAP emissions. However, the operator of the engine must follow the maintenance schedule specified in Table 2d, Item #10 of the RICE NESHAP which are:

(1) change the oil and filter every 1,440 hours of operation or annually, whichever comes first.

(2) inspect spark plugs every 1,440 hours of operation or annually, whichever comes first.

(3) inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first.

In lieu of changing the oil, the operator may instead conduct an oil analysis. The analysis measures the Total Base Number, the oil viscosity, and the percent water content. The oil and filter will be changed if any of the following limits are exceeded:

(1) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new;

(2) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new;

(3) The tested percent water content (by volume) is greater than 0.5 percent.

The Total Base Number is the amount acid necessary to neutralize the base reserve in one gram of oil. It is expressed in the equivalent number of milligrams of potassium hydroxide and is a measure of the ability of the oil to neutralize acids created during combustion. If the operator chooses to change the oil at the specified frequencies, no analysis is required.

3.2.7 40 CFR Part 70 *{Operating Permits}*: The IC Engines Lease is subject to this subpart. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to this lease. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific" that apply to this lease. Table 3.3 lists non-federally-enforceable District Rules. These tables are based on data available from the District's administrative files and from the Part 70 Operating Permit application.

In its Part 70 permit application (Form I) Sierra Resources certified compliance with all existing District rules and permit conditions. This certification is also required of Sierra Resources semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that Sierra Resources complies with the provisions of all applicable subparts.

3.3 Compliance with Applicable State Rules and Regulations

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

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

activities.

3.3.3 Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (CCR Title 17, Section 95665 *et. Seq.*): On October 1, 2017, the California Air Resources Board (CARB) finalized this regulation, which establishes greenhouse gas emission standards for onshore and offshore crude oil and natural gas production facilities. This facility is subject to the provisions of this regulation. The separators and tanks at this facility satisfy the requirements of the CARB regulation through the use of a vapor collection system. The reciprocating natural gas compressor at this facility satisfies the requirements of the CARB regulation through the implementation of leak detection and repair (LDAR) on the rod packing/seals pursuant to District Rule 331. This facility is exempt from the leak detection and repair (LDAR) requirements of the CARB regulation per Section 95669(b)(1), which exempts components, including components found on tanks, separators, wells and pressure vessels, that are subject to District Rule 331 LDAR requirements prior to January 1, 2018. This facility does not utilize circulation tanks for well stimulation treatments, centrifugal natural gas compressors, natural gas powered pneumatic devices or pumps, natural gas only wells, or well casing vents, and is therefore not subject to the CARB regulation standards and requirements for these equipment and processes.

3.4 Compliance with Applicable Local Rules and Regulations

3.4.1 Applicability Tables: In addition to Tables 3.1 and 3.2, Table 3.3 lists the non-federally-enforceable District promulgated rules that apply to this lease.

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

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

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

District Rule 302 - Visible Emissions: This rule prohibits the discharge from any single source any air contaminants for which a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringlemann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringlemann Chart. The engines at this facility are subject to this rule. Compliance will be assured by operation of all the engines in accordance with the requirements of this permit and be maintained according to manufacturer maintenance schedules.

District Rule 303 (Nuisance): Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or

property. Compliance with this rule is assessed through the District's enforcement staff's complaint response program. Based on the source's location, the potential for public nuisance is minimal.

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

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

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

District Rule 311 - Sulfur Content of Fuels: This rule limits the sulfur content of fuels to 796 ppmv however fuel combusted on the Blair Lease is limited to 0.5-percent (by weight) for liquids fuels and 9.4 gr/100 scf (calculated as H_2S) or 150 ppmvd} for gaseous fuels and 0.5-percent (by weight) for liquids fuels and 12.5 gr/100 scf (calculated as H_2S) or 200 ppmvd}gaseous fuels on the Barham/Boyne Lease.

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

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

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

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

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

means that will allow the evaporation of the solvent into the atmosphere. Sierra Resources is required to maintain records to ensure compliance with this rule.

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

District Rule 331 - Fugitive Emissions Inspection and Maintenance: This rule applies to components in liquid and gaseous hydrocarbon service at oil and gas production facilities. Ongoing compliance with the provisions of this rule will be assessed via inspection by District personnel using an organic vapor analyzer, analysis of operator records and the District-approved Fugitive Hydrocarbon Inspection and Maintenance Plan. All fugitive emission inspection and maintenance requirements associated with these engines are incorporated into the Blair and Barham/Boyne lease permits.

Rule 333 - Control of Emissions from Reciprocating Internal Combustion Engines: This rule applies to all engines with a rated brake horsepower of 50 or greater that are fueled by liquid or gaseous fuels. Each of the permitted engines are rated less than 50 bhp therefore this rule does not apply.

District Rule 353 - Adhesives and Sealants: This rule is applicable to any person who supplies, sells, offers for sale, manufactures, solicits the application of, or uses adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless otherwise specifically exempted by this rule. Compliance with this rule will be demonstrated through inspections and recordkeeping.

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

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

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

c. Is not the result of improper maintenance;

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

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

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

3.5 Compliance History

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

3.5.1 Facility Inspections: Routine facility inspections are conducted annually at the Blair and Barham/Boyne leases. The engines subject to this permit are located on these leases therefore inspection of the engines occur during the Blair and Barham/Boyne lease inspections. These inspection reports were reviewed as part of the issuance of this permit. There were no enforcement actions issued as a result of these inspections.

3.5.2 Violations: District records indicate that one enforcement action (comprising two counts) was issued involving the engines subject to this permit:

NOV #11042: Issued July 29, 2016 for exceeding the number of allowable leaks in Table 1 of Rule 331 and operating multiple IC engines in excess of 400 bhp without a District permit.

3.5.3 Variances: There have been no variances issued to this facility since the last permit reevaluation.

3.5.4 Significant Historical Hearing Board Actions: There have been no significant Hearing Board actions since the previous permit reevaluation.

Table 3.1 - Generic Federally-Enforceable District Rules

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 101: Compliance by Existing Installations	All emission units	Emission of pollutants	June 21, 2012
RULE 102: Definitions	All emission units	Emission of pollutants	August 25, 2016
RULE 103: Severability	All emission units	Emission of pollutants	October 23, 1978
RULE 201: Permits Required	All emission units	Emission of pollutants	June 19, 2008
RULE 202: Exemptions to Rule 201	Applicable emission units, as listed in form 1302-H of the Part 70 application.	Insignificant activities/emissions, per size/rating/function	August 25, 2016
RULE 203: Transfer	All emission units	Change of ownership	April 17, 1997
RULE 204: Applications	All emission units	Addition of new equipment of modification to existing equipment.	August 25, 2016
RULE 205: Standards for Granting Permits	All emission units	Emission of pollutants	April 17, 1997
RULE 206: Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules	October 15, 1991
RULE 207: Denial of Applications	All emission units	Applicability of relevant Rules	October 23, 1978

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 208: Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment of modification to existing equipment.	April 17, 1997
RULE 212: Emission Statements	All emission units	Administrative	October 20, 1992
RULE 301: Circumvention	All emission units	Any pollutant emission	October 23, 1978
RULE 302: Visible Emissions	All emission units	Particulate matter emissions	June 1981
RULE 303: Nuisance	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
RULE 304: Particulate Matter – Northern Zone	Each PM Source	Emissions of PM in effluent gas	October 23, 1978
RULE 309: Specific Contaminants	All emission units	Combustion contaminant emission	October 23, 1978
Rule 310: Odorous Organic Sulfides	All emission units	Combustion contaminant emission	October 23, 1978
RULE 311: Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur	October 23, 1978
RULE 317: Organic Solvents	Emission units using solvents	Solvent used in process operations.	October 23, 1978
RULE 321: Solvent Cleaning Operations	Emission units using solvents.	Solvent used in process operations.	June 21, 2012
RULE 322: Metal Surface Coating Thinner and Reducer	Emission units using solvents.	Solvent used in process operations.	October 23, 1978
RULE 323.1: Architectural Coatings	Paints used in maintenance and surface coating activities.	Application of architectural coatings.	June 19, 2014
RULE 324: Disposal and Evaporation of Solvents	Emission units using solvents.	Solvent used in process operations.	October 23, 1978
RULE 342: Control of Oxides of Nitrogen (NO_x) from Boilers Steam Generators and Process Heaters.	Control heat inputs greater than or equal to 5 million Btu per hour	Process heaters and steam generators.	April 17, 1997
RULE 353: Adhesives and Sealants	Emission units using adhesives and solvents.	Adhesives and sealants used in process operations.	June 21, 2012
RULE 505.A, B1, D: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978
RULE 603: Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	Barham Ranch is a major source.	June 15, 1981

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 810: Federal Prevention of Significant Deterioration	New or modified emission units	Major modifications	June 20, 2013
REGULATION VIII: New Source Review	All emission units	Addition of new equipment of modification to existing equipment. Applications to generate ERC Certificates.	August 25, 2016
RULE 901: New Source Performance Standards (NSPS)	All emission units	Applicability standards are specified in each NSPS.	September 20, 2010
RULE 1001: National Emission Standards for Hazardous Air Pollutants (NESHAPS)	All emission units	Applicability standards are specified in each NESHAP.	October 23, 1993
REGULATION XIII (RULES 1301-1305): Part 70 Operating Permits	All emission units	Barham Ranch is a major source.	January 18, 2001

Table 3.2 - Unit-Specific Federally-Enforceable District Rules

Unit-Specific Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 331: Fugitive Emissions Inspection & Maintenance	All components (valves, flanges, seals, compressors and pumps) used to handle oil and gas:	Components emit fugitive ROCs.	Dec 10, 1991

Table 3.3 - Non-Federally-Enforceable District Rules

Requirement	Affected Emission Units	Basis for Applicability	Adoption Date
RULE 210: Fees	All emission units	Administrative	March 17, 2005
RULE 212: Emission Statements	All emission units	Administrative	October 20, 1992
RULE 310: Odorous Organic Sulfides	All emission units	Emission of organic sulfides	October 23, 1978
RULES 501-504: Variance Rules	All emission units	Administrative	October 23, 1978
RULE 505.B2, B3, C, E, F, G: Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978

Requirement	Affected Emission Units	Basis for Applicability	Adoption Date
RULES 506-519: Variance Rules	All emission units	Administrative	October 23, 1978

4.0 Engineering Analysis

4.1 General

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

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

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

4.2 Stationary Combustion Sources

Internal Combustion Engines: There are twenty-five piston-type internal combustion engines fired on gaseous fuel (field gas) and provide power to well pumps and one electric generator. Table 5.1-1 and Table 5.1-2 of this permit lists these engines, the engine specifications, the operating limitations, and the properties of the fuel burned in the engines. All of these engines have nameplate ratings less than 50 bhp.

Emission Calculations:

$$ER = [(EF \times BHP \times BSFC \times HPP) \div 10^6]$$

where:
ER = emission rate (lb/period)
EF = pollutant specific emission factor (lb/MMBtu)
BHP = engine rated max brake-horsepower (bhp)
BSFC = engine brake specific fuel consumption (HHV basis, Btu/bhp-hr)
HPP = operating hours per time period (hrs/period)

Emission Factors:

NO_X = 1.905 lb/MMBtu [(a)]
ROC = 0.103 lb/MMBtu [(a, f)]
CO = 1.60 lb/MMBtu [(d)]
SOx = 0.026 lb/MMBtu (Blair Lease); 0.034 lb/MMBtu (Barham/Boyne) [(b, e)]
PM = 0.01 lb/MMBtu [(c)]
$PM_{10/2.5}$ = 0.01 lb/MMBtu [(c, g)]

Where:

(a) District Hearing Board Action specified factors for gaseous-fired engines, 5/2/1998.
(b) Mass balance; S = total Sulfur in ppmv = 150 (Blair Lease); 200 (Barham/Boyne Lease).
(c) NEDS factor, (8/88)
(d) AP-42, Section 3.2, Tables 3.2-1 and 3.2-4 (Dated 10/92)
(e) HHV = fuel high heating value = 1,050 Btu/scf per District IC Engine Technical Reference Document
(f) Non-methane, non-ethane ROC/THC mass fraction per 07/13/98 District memo.
(g) $PM_{10/2.5}$/TSP mass ratio assumed to be 1.00.

4.9 BACT/NSPS/NESHAP/MACT

To date, this facility has not triggered Best Available Control Technology (BACT), New Source Performance Standards (NSPS) or Maximum Available Control Technology (MACT). National Emission Standards for Hazardous Air Pollutants (NESHAP) ZZZZ establishes operating and performance requirements for existing IC engines.

4.10 CEMS/Process Monitoring/CAM

4.10.1 CEMS: There are no CEMS at this facility.

4.10.2 Process Monitoring: In many instances, ongoing compliance beyond a single (snap shot) source test is assessed by the use of process monitoring systems. Examples of these monitors include: engine hour meters, fuel usage meters, water injection mass flow meters, flare gas flow meters and hydrogen sulfide analyzers. It is important that they be well maintained and calibrated to ensure that the required accuracy and precision of the devices are within specifications. Sierra Resources is required to meter hours of operation of the engines and fuel characteristics such as H_2S and heat content.

4.10.3 CAM: There are no emission units at this facility subject to the USEPA's Compliance Assurance Monitoring Assurance (CAM) rule.

4.11 Source Testing/Sampling

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

At a minimum, the process streams below are required to be sampled and analyzed on a periodic basis, per District Rules and standards:

Fuel Gas: Analysis of fuel gas for hydrogen sulfide (H_2S) content.

All sampling and analyses are required to be performed according to District approved procedures and methodologies. H_2S measurements are conducted using colorimetric gas detection tubes.

4.12 Part 70 Engineering Review: Hazardous Air Pollutant Emissions

Hazardous air pollutant emissions from the different categories of emission units at the Blair Lease are based on emission factors listed in USEPA AP-42. Where no emission factors are

available, the HAP fractions from the ARB VOC Speciation Manual - Second Edition (August 1991) are used in conjunction with the ROC emission factor for the equipment item in question. HAP emission factors are listed in Table 5.4-1. HAP emissions from the engines are computed and listed in Table 5.4-2. These emissions are estimates only. They are not limitations.

5.0 Emissions

5.1 General

The facility was analyzed to determine all air-related emission sources. Emissions calculations are divided into "permitted" and "exempt" categories. District Rule 202 determines permit-exempt equipment. The permitted emissions for each emissions unit is based on the equipment's potential-to-emit (as defined by Rule 102). Since the previous permit reevaluation, $PM_{2.5}$ has been added as a regulated pollutant, therefore $PM_{2.5}$ emissions have been quantified.

Section 5.2 details the permitted emissions for each emissions unit. Section 5.3 details the overall permitted emissions for the facility based on reasonable worst-case scenarios using the potential-to-emit for each emissions unit. Section 5.4 details the federal potential to emit using the definition of potential to emit used in Rule 1301. Section 5.5 addresses the estimated HAP emissions from the facility. Section 5.6 addresses the estimated emissions from permit-exempt equipment and also serves as the Part 70 list of insignificant emissions. Section 5.7 addresses the estimated emissions from greenhouse gasses. The District uses a computer database to accurately track the emissions from a facility. Attachment 10.2 contains the District's documentation for the information entered into that database.

5.2 Permitted Emission Limits - Emission Units

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

- Nitrogen Oxides (NO_x) [2]
- Reactive Organic Compounds (ROC)
- Carbon Monoxide (CO)
- Sulfur Oxides (SO_x) [3]
- Particulate Matter (PM) [4]
- Particulate Matter smaller than 10 microns (PM_{10})
- Particulate Matter smaller than 2.5 microns ($PM_{2.5}$)
- Greenhouse Gases (GHG)

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations are provided in Attachment 10.1. Table 5.1-1 provides the basic operating characteristics. Table 5.1-2 provides the specific emission factors. Tables 5.1-3 and 5.1-4 show the permitted short-term and permitted long-term emissions for each unit or operation. Table 5.2

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

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

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

lists the facility potential to emit and Table 5.3 lists the federal potential to emit. With the exception of fugitive emissions, all emission limits are federally-enforceable.

5.3 Permitted Emission Limits - Facility Totals

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

5.4 Part 70: Federal Potential to Emit for the Facility

Table 5.3 lists the federal Part 70 potential to emit. Coating emissions, although exempt from permit requirements, are included in the federal potential to emit calculation.

5.5 Part 70: Hazardous Air Pollutant Emissions for the Facility

Hazardous air pollutants (HAP) emission factors are listed in Table 5.4-1. HAP emissions, based on the worst-case scenario, are shown in Table 5.4-2. HAPs emissions for the entire stationary source is listed in Table 5.4-3.

5.6 Exempt Emission Sources

Per Rule 202, maintenance activities such as painting and surface coating qualify for a permit exemption, but may contribute to facility emissions.

5.7 Greenhouse Gases

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 98. The follow emission factors apply. The derivation of these emission factors is provided in Attachment 10.1.

External Combustion: 117.10 lbs/MMbtu as CO_2

Table 5.1-1
Permit to Operate 15074
Sierra Resources Barham Ranch Internal Combustion Engines
Operating Equipment Description

Emission Unit	Engine Use	Operator ID #		Fuel	Sulfur Conen ppmV	Max BHP	BHP Limited By	BSFC BTU/bhp-hr	Operating Limitations Use (MMBTU) Hourly	Annual	Load	Max Load Schedule Hours	Day	Qtr	Year
Blair #8	Pumping Unit	9450	1418	FNG	150	32.0	Nameplate	11,000	0.3520	3,084	1	1	24	2,190	8,760
Blair #6	Pumping Unit	9380	1420	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #7	Pumping Unit	9390	1421	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #2	Pumping Unit	9400	1422	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #9	Pumping Unit	9460	1432	FNG	150	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Blair #10	Pumping Unit	9410	1433	FNG	150	37.0	Nameplate	11,000	0.4070	3,565	1	1	24	2,190	8,760
Blair #12	Pumping Unit	9430	1434	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #13	Pumping Unit	9440	1435	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #14	Pumping Unit	9450	1436	FNG	150	32.0	Nameplate	11,000	0.3520	3,084	1	1	24	2,190	8,760
Blair #15	Pumping Unit	-	112900	FNG	150	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Blair #16	Pumping Unit	-	112901	FNG	150	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Generator	Generator	-	112902	FNG	150	49.0	Nameplate	11,000	0.5390	4,722	1	1	24	2,190	8,760
Boyne #1	Pumping Unit	-	390388	FNG	200	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Boyne #2	Pumping Unit	-	390389	FNG	200	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Boyne #3	Pumping Unit	-	390390	FNG	200	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Barham #11	Pumping Unit	-	390391	FNG	200	37.0	Nameplate	10,500	0.3885	3,403	1	1	24	2,190	8,760
Barham #8	Pumping Unit	-	390392	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Boyne #7	Pumping Unit	-	390393	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Boyne #10	Pumping Unit	-	390394	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Barham #7	Pumping Unit	-	390395	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Boyne #1A	Pumping Unit	-	390396	FNG	200	32.0	Nameplate	11,000	0.3520	3,084	1	1	24	2,190	8,760
Barham #9	Pumping Unit	-	390397	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Barham #6	Pumping Unit	-	390398	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Boyne #9	Pumping Unit	-	390399	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760
Barham #10	Pumping Unit	-	391543	FNG	200	25.0	Nameplate	10,500	0.2625	2,300	1	1	24	2,190	8,760

Table 5.1-2
Permit to Operate 15074
Sierra Resources Barham Ranch Internal Combustion Engines
Emission Factors

Emission Unit	Operator ID #	APCD ID #	NOx	ROC	CO	SOx	PM	PM2.5/10	CO2	CH4	N2O	E F Units	References
Blair #8	9450	1418	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #6	9380	1420	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #7	9390	1421	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #2	9400	1422	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #9	9460	1432	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #10	9410	1433	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #12	9430	1434	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #13	9440	1435	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #14	9450	1436	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #15	-	112900	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Blair #16	-	112901	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Generator	-	112902	1.905	0.103	1.600	0.026	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #1	-	390388	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #2	-	390389	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #3	-	390390	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #11	-	390391	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #8	-	390392	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #7	-	390393	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #10	-	390394	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #7	-	390395	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #1A	-	390396	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #9	-	390397	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #6	-	390398	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Boyne #9	-	390399	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A
Barham #10	-	391543	1.905	0.103	1.600	0.034	0.010	0.010	146.4	0.00198	0.0002	lb/MMBtu	A

Table 5.1-3
Permit to Operate 15074
Sierra Resources Barham Ranch Internal Combustion Engines
Hourly and Daily Emissions

Emission	Serial #	APCD	NOx		ROC		CO		SOx		PM		PM2.5/10		CO2		CH4		N2O		Enforcebility	
Unit	or Tag #	ID #	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	Type	Basis
Blair #8	9450	1418	0.67	16.09	0.04	0.87	0.56	13.52	0.01	0.22	0.00	0.08	0.00	0.08	51.53	1236.79	0.00	0.02	0.00	0.00	A	--
Blair #6	9380	1420	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #7	9390	1421	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #2	9400	1422	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #9	9460	1432	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.24	0.00	0.09	0.00	0.09	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Blair #10	9410	1433	0.78	18.61	0.04	1.01	0.65	15.63	0.01	0.25	0.00	0.10	0.00	0.10	59.58	1430.04	0.00	0.02	0.00	0.00	A	--
Blair #12	9430	1434	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #13	9440	1435	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #14	9450	1436	0.67	16.09	0.04	0.87	0.56	13.52	0.01	0.22	0.00	0.08	0.00	0.08	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Blair #15	-	112900	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.16	0.00	0.06	0.00	0.06	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Blair #16	-	112901	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.24	0.00	0.09	0.00	0.09	78.91	1893.83	0.00	0.03	0.00	0.00	A	--
Generator	-	112902	1.03	24.64	0.06	1.33	0.86	20.70	0.01	0.34	0.01	0.13	0.01	0.13	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Boyne #1	-	390388	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.32	0.00	0.09	0.00	0.09	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Boyne #2	-	390389	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.32	0.00	0.09	0.00	0.09	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Boyne #3	-	390390	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.32	0.00	0.09	0.00	0.09	56.88	1365.03	0.00	0.02	0.00	0.00	A	--
Barham #11	-	390391	0.74	17.76	0.04	0.96	0.62	14.92	0.01	0.32	0.00	0.09	0.00	0.09	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Barham #8	-	390392	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Boyne #7	-	390393	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Boyne #10	-	390394	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Barham #7	-	390395	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	51.53	1236.79	0.00	0.02	0.00	0.00	A	--
Boyne #1A	-	390396	0.67	16.09	0.04	0.87	0.56	13.52	0.01	0.29	0.00	0.08	0.00	0.08	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Barham #9	-	390397	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Barham #6	-	390398	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Boyne #9	-	390399	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	38.43	922.32	0.00	0.01	0.00	0.00	A	--
Barham #10	-	391543	0.50	12.00	0.03	0.65	0.42	10.08	0.01	0.21	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	A	--

Table 5.1-4
Permit to Operate 15074
Sierra Resources Barham Ranch Internal Combustion Engines
Quarterly and Annual Emissions

Emission	Serial #	APCD	NOx		ROC		CO		SOx		PM		PM2.5/10		CO2		CH4		N2O		Enforceability	
Unit	or Tag #	ID #	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	Type	Basis
Blair #8	9450	1418	0.73	2.94	0.04	0.16	0.62	2.47	0.01	0.04	0.00	0.02	0.00	0.02	56.43	225.71	0.00	0.00	0.00	0.00	A	--
Blair #6	9380	1420	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #7	9390	1421	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #2	9400	1422	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #9	9460	1432	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.04	0.00	0.02	0.00	0.02	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Blair #10	9410	1433	0.85	3.40	0.05	0.18	0.71	2.85	0.01	0.05	0.00	0.02	0.00	0.02	65.25	260.98	0.00	0.00	0.00	0.00	A	--
Blair #12	9430	1434	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #13	9440	1435	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #14	9450	1436	0.73	2.94	0.04	0.16	0.62	2.47	0.01	0.04	0.00	0.02	0.00	0.02	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Blair #15	-	112900	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.03	0.00	0.01	0.00	0.01	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Blair #16	-	112901	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.04	0.00	0.02	0.00	0.02	86.41	345.62	0.00	0.00	0.00	0.00	A	--
Generator	-	112902	1.12	4.50	0.06	0.24	0.94	3.78	0.02	0.06	0.01	0.02	0.01	0.02	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Boyne #1	-	390388	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.06	0.00	0.02	0.00	0.02	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Boyne #2	-	390389	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.06	0.00	0.02	0.00	0.02	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Boyne #3	-	390390	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.06	0.00	0.02	0.00	0.02	62.28	249.12	0.00	0.00	0.00	0.00	A	--
Barham #11	-	390391	0.81	3.24	0.04	0.18	0.68	2.72	0.01	0.06	0.00	0.02	0.00	0.02	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Barham #8	-	390392	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Boyne #7	-	390393	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Boyne #10	-	390394	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Barham #7	-	390395	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	56.43	225.71	0.00	0.00	0.00	0.00	A	--
Boyne #1A	-	390396	0.73	2.94	0.04	0.16	0.62	2.47	0.01	0.05	0.00	0.02	0.00	0.02	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Barham #9	-	390397	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Barham #6	-	390398	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Boyne #9	-	390399	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	42.08	168.32	0.00	0.00	0.00	0.00	A	--
Barham #10	-	391543	0.55	2.19	0.03	0.12	0.46	1.84	0.01	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	A	--
TOTALS			16.70	66.82	0.90	3.61	14.03	56.12	0.26	1.05	0.09	0.35	0.09	0.35	1227.32	4909.27	0.02	0.07	0.00	0.01		

Table 5.2
Permit to Operate 15074
Total Permitted Facility Emissions

A. HOURLY (lb/hr)

Equipment Category	NO_x	ROC	CO	SO_x	PM	$PM_{12.5/10}$	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	7.62	0.41	6.40	0.10	0.04	0.04	591.24	0.01	0.00	591.68
	7.62	**0.41**	**6.40**	**0.10**	**0.04**	**0.04**	**591.24**	**0.01**	**0.00**	**591.68**

B. DAILY (lb/day)

Equipment Category	NO_x	ROC	CO	SO_x	PM	$PM_{12.5/10}$	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	182.97	9.89	153.68	2.50	0.96	0.96	14,189.67	0.19	0.02	14200.32
	182.97	**9.89**	**153.68**	**2.50**	**0.96**	**0.96**	**14,189.67**	**0.19**	**0.02**	**14,200.32**

C. QUARTERLY (tpq)

Equipment Category	NO_x	ROC	CO	SO_x	PM	$PM_{12.5/10}$	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	8.35	0.45	7.01	0.11	0.04	0.04	647.40	0.01	0.00	647.89
	8.35	**0.45**	**7.01**	**0.11**	**0.04**	**0.04**	**647.40**	**0.01**	**0.00**	**647.89**

D. ANNUAL (tpy)

Equipment Category	NO_x	ROC	CO	SO_x	PM	$PM_{12.5/10}$	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	33.39	1.81	28.05	0.46	0.18	0.18	2,589.62	0.04	0.00	2591.56
	33.39	**1.81**	**28.05**	**0.46**	**0.18**	**0.18**	**2,589.62**	**0.04**	**0.00**	**2,591.56**

Table 5.3
Permit to Operate 15074
Federal Potential to Emit

A. HOURLY (lb/hr)

Equipment Category	NO_x	ROC	CO	SO_x	PM	PM_{10}	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	7.62	0.41	6.40	0.10	0.04	0.04	591.24	0.01	0.00	591.68
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7.62	**0.41**	**6.40**	**0.10**	**0.04**	**0.04**	**591.24**	**0.01**	**0.00**	**591.68**

B. DAILY (lb/day)

Equipment Category	NO_x	ROC	CO	SO_x	PM	PM_{10}	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	182.97	9.89	153.68	2.50	0.96	0.96	14,189.67	0.19	0.02	14,200.32
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	182.97	**9.89**	**153.68**	**2.50**	**0.96**	**0.96**	**14,189.67**	**0.19**	**0.02**	**14,200.32**

C. QUARTERLY (tpq)

Equipment Category	NO_x	ROC	CO	SO_x	PM	PM_{10}	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	8.35	0.45	7.01	0.11	0.04	0.04	647.40	0.01	0.00	647.89
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8.35	**0.45**	**7.01**	**0.11**	**0.04**	**0.04**	**647.40**	**0.01**	**0.00**	**647.89**

D. ANNUAL (tpy)

Equipment Category	NO_x	ROC	CO	SO_x	PM	PM_{10}	CO_2	CH_4	N_2O	CO_2e
Internal Combustion Engines	33.39	1.81	28.05	0.46	0.18	0.18	2,589.62	0.04	0.00	2,591.56
Exempt Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	33.39	**1.81**	**28.05**	**0.46**	**0.18**	**0.18**	**2,589.62**	**0.04**	**0.00**	**2,591.56**

Table 5.4-1
Barham Ranch IC Engines: Permit to Operate 15074
Equipment Hazardous Air Pollutant Factors

Equipment Category	Description	APCD Device No.	Emission Factors: Hexane	Benzene	Toluene	Xylene	Iso-Octane	Formaldehyde	PAHs (not incl. napthalene)	Naphthalene	Acetaldehyde	Acrolein	1,3-Butadiene	Carbon Tetrachloride	Chloroform	Ethylbenzene	Ethylene Dibromide	Ethylene Dichloride	Methanol	Methylene Chloride	Styrene	Vinyl Chloride	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dichloropropane	1,3-Dichloropropene	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Units	References
Internal Combustion Engines	Blair #8	001418	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #6	001420	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #7	001421	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #2	001422	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #9	001432	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #10	001433	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #12	001434	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #13	001435	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #14	001436	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #15	112900	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Blair #16	112901	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Generator	112902	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #1	390388	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #2	390389	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #3	390390	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #11	390391	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #8	390392	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #7	390393	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #10	390394	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #7	390395	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #1A	390396	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #9	390397	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #6	390398	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Boyne #9	390399	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A
	Barham #11	391543	1.13E+00	1.98E+00	9.82E-01	2.73E-01	--	5.63E+01	--	9.90E-02	8.53E+00	7.94E+00	8.36E-01	6.19E-02	4.80E-02	1.10E-01	7.49E-02	4.30E-02	3.12E+00	1.50E-01	5.59E-02	2.52E-02	6.76E-02	5.38E-02	4.55E-02	4.47E-02	--	--	--	--	--	--	--	--	--	lb/MMcf	A

References:

Table 5.4-2
Barham Ranch IC Engines: Permit to Operate 15074
Annual Hazardous Air Pollution Emissions (TPY)

Equipment Category	Description	APCD Device No.	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Formaldehyde	PAHs (not incl. naphthalene)	Naphthalene	Acetaldehyde	Acrolein	1,3-Butadiene	Carbon Tetrachloride	Chloroform	Ethylbenzene	Ethylene Dibromide	Ethylene Dichloride	Methanol	Methylene Chloride	Styrene	Vinyl Chloride	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dichloropropane	1,3-Dichloropropene	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium
Internal Combustion Engines	Blair #8	001418	1.66E-03	2.91E-03	1.44E-03	4.01E-04	--	8.27E-02	--	1.45E-04	1.25E-02	1.17E-02	1.23E-03	9.09E-05	7.05E-05	1.62E-04	1.10E-04	6.31E-05	4.58E-03	2.20E-04	8.21E-05	3.70E-05	9.93E-05	7.90E-05	6.68E-05	6.56E-05	--	--	--	--	--	--	--	--	--
	Blair #6	001420	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #7	001421	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #2	001422	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #9	001432	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Blair #10	001433	1.92E-03	3.36E-03	1.67E-03	4.63E-04	--	9.56E-02	--	1.68E-04	1.45E-02	1.35E-02	1.42E-03	1.05E-04	8.15E-05	1.87E-04	1.27E-04	7.30E-05	5.30E-03	2.55E-04	9.49E-05	4.28E-05	1.15E-04	9.13E-05	7.72E-05	7.59E-05	--	--	--	--	--	--	--	--	--
	Blair #12	001434	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #13	001435	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #14	001436	1.66E-03	2.91E-03	1.44E-03	4.01E-04	--	8.27E-02	--	1.45E-04	1.25E-02	1.17E-02	1.23E-03	9.09E-05	7.05E-05	1.62E-04	1.10E-04	6.31E-05	4.58E-03	2.20E-04	8.21E-05	3.70E-05	9.93E-05	7.90E-05	6.68E-05	6.56E-05	--	--	--	--	--	--	--	--	--
	Blair #15	112900	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Blair #16	112901	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Generator	112902	2.54E-03	4.45E-03	2.21E-03	6.14E-04	--	1.27E-01	--	2.23E-04	1.92E-02	1.79E-02	1.88E-03	1.39E-04	1.08E-04	2.47E-04	1.68E-04	9.87E-05	7.02E-03	3.37E-04	1.26E-04	5.67E-05	1.52E-04	1.21E-04	1.02E-04	1.01E-04	--	--	--	--	--	--	--	--	--
	Boyne #1	390388	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Boyne #2	390389	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Boyne #3	390390	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Barham #11	390391	1.83E-03	3.21E-03	1.59E-03	4.42E-04	--	9.12E-02	--	1.60E-04	1.38E-02	1.29E-02	1.35E-03	1.00E-04	7.78E-05	1.78E-04	1.21E-04	6.97E-05	5.06E-03	2.43E-04	9.06E-05	4.08E-05	1.10E-04	8.72E-05	7.37E-05	7.24E-05	--	--	--	--	--	--	--	--	--
	Barham #8	390392	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Boyne #7	390393	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Boyne #10	390394	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Barham #7	390395	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Boyne #1A	390396	1.66E-03	2.91E-03	1.44E-03	4.01E-04	--	8.27E-02	--	1.45E-04	1.25E-02	1.17E-02	1.23E-03	9.09E-05	7.05E-05	1.62E-04	1.10E-04	6.31E-05	4.58E-03	2.20E-04	8.21E-05	3.70E-05	9.93E-05	7.90E-05	6.68E-05	6.56E-05	--	--	--	--	--	--	--	--	--
	Barham #9	390397	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Barham #6	390398	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Boyne #9	390399	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Barham #11	391543	1.24E-03	2.17E-03	1.08E-03	2.99E-04	--	6.16E-02	--	1.08E-04	9.34E-03	8.69E-03	9.15E-04	6.78E-05	5.26E-05	1.20E-04	8.20E-05	4.71E-05	3.42E-03	1.64E-04	6.12E-05	2.76E-05	7.40E-05	5.89E-05	4.98E-05	4.89E-05	--	--	--	--	--	--	--	--	--
	Total Facility HAPs (TPY):		**3.77E-02**	**6.61E-02**	**3.28E-02**	**9.12E-03**	**0.00E+00**	**1.88E+00**	**0.00E+00**	**3.31E-03**	**2.85E-01**	**2.65E-01**	**2.79E-02**	**2.07E-03**	**1.60E-03**	**3.67E-03**	**2.50E-03**	**1.44E-03**	**1.04E-01**	**5.01E-03**	**1.87E-03**	**8.42E-04**	**2.26E-03**	**1.80E-03**	**1.62E-03**	**1.49E-03**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.
3. Natural gas emission calculations are based on a standard value of 1050 BTU/scf.

Table 5.4-3
Sierra Resources Barham Ranch: Permit to Operate 15074
Stationary Source Hazardous Air Pollutant Emissions (TPY)

Facility	Permit #	Hexane	Benzene	Toluene	Xylene	Iso-Octane	Formaldehyde	PAHs (not incl. naphthalene)	Naphthalene	Acetaldehyde	Acrolein	1,3-Butadiene	Carbon Tetrachloride	Chloroform	Ethylbenzene	Ethylene Dibromide	Ethylene Dichloride	Methanol	Methylene Chloride	Styrene	Vinyl Chloride	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dichloropropane	1,3-Dichloropropene	Arsenic	Beryllium	Cadmium	Total Chromium	Cobalt	Manganese	Mercury	Nickel	Selenium	Total - All H
02637 - Blair Lease	**PTO 15000**	8.01E-01	1.76E-01	1.03E-01	4.83E-02	5.83E-01	4.49E-01	1.15E-03	4.22E-03	1.65E-02	3.85E-03	0.00E+00	0.00E+00	0.00E+00	5.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-05	4.67E-06	4.28E-04	5.44E-04	3.27E-05	1.48E-04	1.01E-04	8.17E-04	9.33E-06	2.74E+00
03777 - Boyne Lease	**PTO 15001**	7.14E-01	1.59E-01	1.07E-01	3.97E-02	4.60E-01	8.57E-02	2.21E-04	8.09E-04	3.23E-03	7.85E-04	0.00E+00	0.00E+00	0.00E+00	1.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.12E-06	1.03E-04	1.31E-04	7.84E-06	3.55E-05	2.43E-05	1.96E-04	2.24E-06	1.68E+00
11609 - IC Engines	**PTO 15074**	3.77E-02	6.61E-02	3.28E-02	9.12E-03	0.00E+00	1.88E+00	0.00E+00	3.31E-03	2.85E-01	2.65E-01	2.79E-02	2.07E-03	1.60E-03	3.67E-03	2.50E-03	1.44E-03	1.04E-01	5.01E-03	1.87E-03	8.42E-04	2.26E-03	1.80E-03	1.52E-03	1.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E+00
Total Stationary Source - By Pollutant		**1.55E+00**	**4.01E-01**	**2.43E-01**	**9.71E-02**	**1.04E+00**	**2.42E+00**	**1.37E-03**	**8.34E-03**	**3.05E-01**	**2.70E-01**	**2.79E-02**	**2.07E-03**	**1.60E-03**	**6.64E-01**	**2.50E-03**	**1.44E-03**	**1.04E-01**	**5.01E-03**	**1.87E-03**	**8.42E-04**	**2.26E-03**	**1.80E-03**	**1.52E-03**	**1.49E-03**	**9.64E-05**	**5.79E-06**	**5.30E-04**	**6.75E-04**	**4.05E-05**	**1.83E-04**	**1.26E-04**	**1.01E-03**	**1.16E-05**	**7.10E+00**

Notes:
1. These are estimates only, and are not intended to represent emission limits.
2. Based on CAAA, Section 112 (n) (4) stipulations, the HAP emissions listed above can not be aggregated at the source for any purpose, including determination of HAP major source status for MACT applicability.

6.0 Air Quality Impact Analyses

6.1 Modeling

Air quality modeling has not been required for the Blair Lease.

6.2 Increments

An air quality increment analysis has not been required for the Blair Lease.

6.3 Monitoring

Air quality monitoring is not required for the Blair Lease.

6.4 Health Risk Assessment

The Sierra Resources Barham Ranch Stationary Source is subject to the Air Toxics Hot-Spots Program (AB-2588). A health risk assessment (HRA) for the source was prepared by the District in November 1995 under the requirements of the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588). The HRA is based on 1992 toxic emissions inventory data submitted to the District by a previous operator. An earlier HRA, based on 1990 emission data was also prepared by the District for in July 1993. Based on the 1992 toxic emissions inventory, a cancer risk of 3 per million off the property was estimated for the Barham Ranch Stationary Source. Additionally, a chronic risk of 0.05 and an acute risk of 0.04 have been estimated by the District. The cancer and non-cancer chronic risk projections are less than the District's AB-2588 significance thresholds of 10 in a million and 1.0, respectively.

7.0 CAP Consistency, Offset Requirements and ERCs

7.1 General

Santa Barbara County is in attainment of the federal ozone standard but is in nonattainment of the state eight-hour ozone ambient air quality standard. In addition, the County is in nonattainment of the state PM_{10} ambient air quality standards. The County is either in attainment or unclassified with respect to all other ambient air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with maintenance of the federal ambient air quality standards and progress towards attainment of the state ambient air quality standards. Under District regulations, any modifications at this facility or the Barham Ranch Stationary Source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Additional increases may trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 240 lbs/day for all attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$) and 25 tons/year for all non-attainment pollutants and precursors (except carbon monoxide and $PM_{2.5}$).

7.2 Clean Air Plan

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

developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

In March 2015 the District Board adopted the 2013 Clean Air Plan. The 2013 Plan provides a three-year update to the 2010 Clean Air Plan. As Santa Barbara County has yet to attain the state eight-hour ozone standard, the 2013 Clean Air Plan demonstrates how the District plans to attain that standard. The 2013 Clean Air Plan therefore satisfies all state triennial planning requirements.

7.3 Offset Requirements

The Barham Ranch stationary source exceeds the emission offset thresholds of Regulation VIII for NO_x and ROC emissions, however this stationary source did not become subject to the emission offset requirements of Regulation VIII until adoption of revised Rule 802 in August 2016, therefore Sierra Resources is not required to provide emission reduction credits for the emissions associated with this permit.

8.0 Lead Agency Permit Consistency

The Santa Barbara County Planning and Development Department is the lead agency for this project. To the District's knowledge, this permit is consistent with all provisions of the lead agency permit.

9.0 Permit Conditions

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

9.A Standard Administrative Conditions

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

A.1 **Condition Acceptance.** Acceptance of this operating permit by Sierra Resources shall be considered as acceptance of all terms, conditions, and limits of this permit.

A.2 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.*

A.3 **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, Sierra Resources shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.

A.4 **Conflicts Between Conditions.** In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

A.5 **Compliance.** Nothing contained within this permit shall be construed to allow the violation of any local, State or Federal rule, regulation, ambient air quality standard or air quality increment.

A.6 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file) and the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

A.7 **Compliance with Permit Conditions.**

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

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

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

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

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

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

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

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

A.8 **Consistency with State and Local Permits.** Nothing in this permit shall relax any air pollution control requirement imposed on the Barham Ranch Stationary Source by the State of California or the California Coastal Commission in any consistency determination for this project with the California Coastal Act.

A.9 **Emergency Provisions.** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule) and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the

permittee shall provide the District, in writing, a "notice of emergency" within 2 working days of the emergency. The "notice of emergency" shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F.

A.10 **Compliance Plans.**

(a) The permittee shall comply with all federally enforceable requirements that become applicable during the permit term in a timely manner.

(b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.

A.11 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

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

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

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

A.12 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules. The permittee shall apply for renewal of the Part 70 permit no later than 180 days before the permit expiration date. Upon submittal of a timely and complete renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. *[Re: District Rule 1304.D.1]*

A.13 **Reimbursement of Costs.** All reasonable expenses, as defined in District Rule 210, incurred by the District, District contractors, and legal counsel for all activities that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by Sierra Resources as required by Rule 210. *[Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6]*

A.14 **Prompt Reporting of Deviations.** The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7-days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. *[District Rule 1303.D.1, 40 CFR 70.6(a) (3)]*

A.15 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six-months. A paper copy, as well as, a complete PDF electronic copy of these reports, shall be in a format approved by the District. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. A paper copy, as well as, a complete PDF electronic copy of these reports, shall be submitted by September 1st and March 1st, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. *[Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c]*

A.16 **Federally-Enforceable Conditions.** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. *[Re: CAAA, § 502(b)(6), 40 CFR 70.6]*

A.17 **Recordkeeping Requirements.** Records of required monitoring information shall include the following:

(a) The date, place as defined in the permit, and time of sampling or measurements

(b) The date(s) analyses were performed

(c) The company or entity that performed the analyses

(d) The analytical techniques or methods used

(e) The results of such analyses

(f) The operating conditions as existing at the time of sampling or measurement

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

A.18 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

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

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

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

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

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

A.19 **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District P&P emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors. Further, Sierra Resources shall modify its permit via an ATC application if compliance data shows that an emission factor used to develop the permit's potential to emit is lower than that documented in the field. The ATC permit shall, at a minimum, adjust the emission factor to that documented by the compliance data consistent with applicable rules, regulations and requirements. *[Re: ATC 8837, PTO 8837]*

A.20 **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be issued by the manufacturer and shall be affixed to the equipment in a permanent and conspicuous position.

A.21 **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.

A.22 **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form –01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.

9.B Generic Conditions

The generic conditions listed below apply to all emission units, regardless of their category or emission rates. These conditions are federally enforceable. Compliance with these requirements is discussed in Section 3. In case of a discrepancy between the wording of a condition and the applicable federal or District rule(s), the wording of the rule shall control.

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

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

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

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

(c) Sierra Resources shall determine compliance with the requirements of this Condition and Rule 302. *[Re: District Rule 302]*

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

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

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

B.6 **CARB Registered Portable Equipment.** State registered portable equipment shall comply with State registration requirements. A copy of the state registration shall be readily available whenever the equipment is at the facility. *[Re: District Rule 202]*

B.7 **Emergency Episode Plan (Rule 603).** During emergency episodes, Sierra Resources shall implement the Emergency Episode Plan approved on December 12, 2000.

9.C *Requirements and Equipment Specific Conditions*

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

C.1 **Internal Combustion Engines.** The following equipment items are included in this emissions unit category:

(a) Emission Limits. Mass emissions the engines shall not exceed the limits specified in Tables 5.1-3 and 5.1-4.

(b) Operational Limits. The following operational limits apply to the permitted engines:

(i) The heat input to each engine shall not exceed the values listed in Table 5.1-1.

(ii) The total sulfur content (calculated as H_2S at standard conditions, 60° F and 14.7 psia) of the fuel used in the Blair Lease engines shall not exceed 9.4 grains per 100 cubic feet (150 ppmv) and 12.5 grains per 100 cubic feet (200ppmv) in the fuel used in the Barham/Boyne lease engines. The lease location for each engine is specified on Table 5.5-1.

(iii) The engines shall have the operator identification number permanently affixed onto or legibly liquid welded or stamped into the engine block. The location of this identification shall be readily accessible for inspection. The permittee shall maintain a reference list containing the make, model, serial number, rated maximum HP and RPM that correspond to the operator identification number on the engine block.

(iv) The engines shall comply with the following operating limits:

(1) Change the oil and filter every 1,440 hours of operation or annually, whichever occurs first.

(2) Inspect the spark plugs every 1,440 hours of operation or annually, whichever occurs first.

(3) Inspect all hoses and belts every 1,440 hours of operation or annually, whichever occurs first.

In lieu of changing the oil and filter, the permittee may analyze the oil of each engine every 1,000 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent water content. The oil and filter shall be changed if any of the following limits are exceeded:

- The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.

- The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.
- The tested percent water content (by volume) is greater than 0.5 percent.

(c) Monitoring. The following monitoring conditions shall apply:

(i) Fuel Use Monitoring: The permittee shall implement the requirements of the District-approved *Fuel Use Monitoring Plan* (FUMP). The operator shall submit a revised FUMP for District review and approval within 45 days of the final issuance date of this permit. The FUMP shall include a description of the fuel monitoring system at each lease, meter specifications, example logs, and calculation sheets. The plan may be modified only upon written approval by the District and shall be maintained on-site and be made available to District personnel upon request.

(ii) Fuel Sulfur Monitoring - Blair Lease: The H_2S content of the fuel gas at the Blair lease shall be measured on a monthly basis using colorimetric gas detection tubes or a District-approved equivalent. If any measurement indicates an H_2S content greater than 100 ppmv, the permittee shall measure the total sulfur content of the gaseous fuel within one week of the measurement in accordance with ASTM-D5504-01 or a District approved equivalent method.

(iii) Fuel Sulfur Monitoring - Barham/Boyne Lease: The H_2S content of the fuel gas at the Barham/Boyne lease shall be measured on a monthly basis using colorimetric gas detection tubes or a District-approved equivalent. If any measurement indicates an H_2S content greater than 150 ppmv, the permittee shall measure the total sulfur content of the gaseous fuel within one week of the measurement in accordance with ASTM-D5504-01 or a District approved equivalent method

(iv) Fuel Heating Value: The permittee shall measure the heating value of the gaseous fuel (Btu/scf) at each lease on an annual basis, using ASTM D-3588, D-1945, or a District-approved equivalent method.

(d) Recordkeeping: The following recordkeeping requirements shall apply:

(i) Heat input to each engine (MMBtu/month and MMBtu/year);

(ii) Days of operation per month and year for each engine;

(iii) Results of all gas analyses (high heating value, H_2S, and total sulfur);

(iv) The following subpart ZZZZ records shall be kept for each engine:

(1) The date of each engine oil change and the number of hours of operation since the previous oil change. If an oil analysis is performed, the records must include the date and results of each oil analysis and the Total Base Number and oil viscosity of the oil when new.

(2) The date of each engine spark plug inspection and the number of hours of operation since the previous spark plug inspection. Indicate if the spark plugs were replaced as a result of the inspection.

(3) The date of each engine's hose and belt inspections and the number of hours of operation since the previous hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.

(e) Reporting: On a semi-annual basis, a report detailing the previous six months activities shall be provided to the District. The report shall list all the data required by the Semi-Annual Monitoring/Compliance Verification Reports condition listed below. *[Ref: District Rules 333, 1303 and 40 CFR 70.6]*

C.2 **Semi-Annual Monitoring/Compliance Verification Reports.** Twice a year, Sierra Resources shall submit a compliance verification report to the District. A paper copy, as well as, a complete PDF electronic copy of these reports shall be submitted. Each report shall document compliance with all permit, rule or other statutory requirements during the prior two calendar quarters. The first report shall cover calendar quarters 1 and 2 (January through June) and shall be submitted no later than September 1. The second report shall cover calendar quarters 3 and 4 (July through December) and shall be submitted no later than March 1. Each report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit (if applicable for that quarter). These reports shall be in a format approved by the District. Compliance with all limitations shall be documented in the submittals. All logs and other basic source data not included in the report shall be made available to the District upon request. The second report shall also include an annual report for the prior four quarters. Pursuant to Rule 212, a completed *District Annual Emissions Inventory* questionnaire. Sierra Resources may use the *Compliance Verification Report* in lieu of the *Emissions Inventory* questionnaire if the format of the CVR is acceptable to the District's Emissions Inventory Group and if Sierra Resources submits a statement signed by a responsible official stating that the information and calculations of emissions presented in the CVR are accurate and complete to best knowledge of the individual certifying the statement. The report shall include the following information:

(a) Heat input to each engine (MMBtu/month and MMBtu/year);

(b) Days of operation per month and year for each engine;

(c) Results of all gas analyses (high heating value, H_2S, and total sulfur);

(d) The following subpart ZZZZ records:

(i) The date of each engine oil change and the number of hours of operation since the previous oil change. If an oil analysis was performed, submit the date and results of each oil analysis and the Total Base Number and oil viscosity of the oil when new.

(ii) The date of each engine spark plug inspection and the number of hours of operation since the previous spark plug inspection. Indicate if the spark plugs were replaced as a result of the inspection.

(iii) The date of each engine's hose and belt inspections and the number of hours of operation since the previous hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.

C.3 **Temporary Engine Replacements.** Any reciprocating internal combustion engine subject to this permit may be replaced temporarily only if the requirements (a-f) listed herein are satisfied.

(a) The permitted engine is in need of routine repair or maintenance.

(b) The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 60 days of placement of the temporary engine. For good cause, and with advance written District approval, this time period may be extended.

(c) The temporary replacement engine has the same or lower manufacturer, or orifice plate, rated horsepower and same or lower potential to emit of each pollutant as the permitted engine that is being temporarily replaced.

(d) The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.

(e) For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

(f) Within 14 days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy, or can be e-mailed (e-mail: engr@sbcapcd.org) to the District (Attn: Engineering Supervisor).

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

C.5 **Process Stream Sampling and Analysis.** Sierra Resources shall sample analyze the process streams listed in Section 4.9.2 of this permit according to the methods and frequency detailed in that Section. All process stream samples shall be taken according to District approved ASTM methods and must follow traceable chain of custody procedures. Compliance with this condition shall be assessed through compliance with the monitoring, recordkeeping and reporting (MRR) conditions listed in this permit.

C.7 **Documents Incorporated by Reference.** Sierra Resources shall implement, and operate in accordance with, each of the plans listed below. These plans, including any District -approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition for this operating permit. These plans shall be implemented for the life of the project.

- *Fuel Use Monitoring Plan (approved June 29, 2011)*

9.D *District-Only Conditions*

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

D.1 **Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities.** The equipment permitted herein shall be operated in compliance with the California Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities regulation (CCR Title 17, Section 95665 *et. Seq.*).

D.2 **CARB GHG Regulation Recordkeeping.** The permittee shall maintain at least 5 years of records that document the following:

i. The number of crude oil or natural gas wells at the facility.

ii. A list identifying all pressure vessels, tanks, separators, sumps, and ponds at the facility, including the size of each tank and separator in units of barrels.

iii. The annual crude oil, natural gas, and produced water throughput of the facility.

iv. A list identifying all reciprocating and centrifugal natural gas compressors at the facility.

v. A count of all natural gas powered pneumatic devices and pumps at the facility.

vi. A copy of the *Best Practices Management Plan* designed to limit methane emissions from circulation tanks, if applicable.

D.3 **CARB GHG Regulation Reporting**. The permittee shall report all throughput data and any updates to the information recorded pursuant to the *CARB GHG Regulation Recordkeeping* Condition above using District Annual Report Form ENF-108.

Air Pollution Control Officer

AUG 31 2018

Date

NOTES:

(a) Permit Reevaluation Due Date: August 2021

10.0 Attachments

10.1 Emission Calculation Documentation

10.2 IDS Database Emission Tables

10.3 Equipment List

10.4 Insignificant Activities

10.5 Fee Statement

10.6 Comments on Draft Permit/District Responses

10.1 Emission Calculation Documentation Sierra Resources

This attachment contains all relevant emission calculation documentation used for the emission tables in Section 5. Refer to Section 4 for the general equations.

Reference A - Internal Combustion Engines

→ The maximum operating schedule is in units of hours

→ Brake Specific Fuel Consumption (BSFC) for each model of ICE is listed in Table 5.1-1.

→ Emission factor units (lb/MMBtu):

NO_X = 1.905 lb/MMBtu [(a)]

ROC = 0.103 lb/MMBtu [(a, f)]

CO = 1.60 lb/MMBtu [(d)]

SOx = 0.026 lb/MMBtu (Blair Lease); 0.034 lb/MMBtu (Barham/Boyne) [(b, e)]

PM = 0.01 lb/MMBtu [(c)]

$PM_{10/2.5}$ = 0.01 lb/MMBtu [(c, g)]

Where:

(a) District Hearing Board Action specified factors for gaseous-fired engines, 5/2/1990.

(b) Mass balance; S = total Sulfur in ppmv = 150 (Blair Lease); 200 (Barham/Boyne Lease).

(c) NEDS factor, (8/88)

(d) AP-42, Section 3.2, Tables 3.2-1 and 3.2-4 (Dated 10/92)

(e) HHV = fuel high heating value = 1,050 Btu/scf per District IC Engine Technical Reference Document

(f) Non-methane, non-ethane ROC/THC mass fraction per 07/13/98 District memo.

(g) $PM_{10/2.5}$/TSP mass ratio assumed to be 1.00.

Greenhouse Gas Emissions Computations:

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

10.2 IDS Database Emission Tables

Table 1
Permitted Potential to Emit (PPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5/10}$
PTO 15074 - IC Engines Lease						
lb/day	182.97	11.62	153.68	2.50	0.96	0.96
tons/year	33.39	2.12	28.05	0.46	0.18	0.18

Table 2
Facility Potential to Emit (FPTE)

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5/10}$
PTO 15074 - IC Engines Lease						
lbs/day	182.97	9.89	153.68	2.50	0.96	0.96
tons/year	33.39	2.12	28.05	0.46	0.18	0.18

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

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5/10}$
PTO 15074 - IC Engines Lease						
lbs/day	182.97	9.89	153.68	2.50	0.96	0.96
tons/year	33.39	2.12	28.05	0.46	0.18	0.18

Table 4
Stationary Source Total Potential to Emit

	NO_X	ROC	CO	SO_X	TSP	$PM_{2.5/10}$
PTO 15074 - IC Engines Lease						
lbs/day	376.00	755.64	1113.11	77.85	54.63	54.63
tons/year	68.62	139.03	203.15	14.21	9.97	9.79

10.3 Equipment List

PERMIT EQUIPMENT LIST - TABLE A

PTO 14934 / FID: 02637 Blair Lease - Barham Ranch / SSID: 02638

A PERMITTED EQUIPMENT

1 IC Engine: #3

Device ID #	**001418**	***Device Name***	**IC Engine: #3**
Rated Heat Input		*Physical Size*	32.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9350
Model	403	*Serial Number*	
Location Note			
Device Description	Located at well Blair #8		

2 IC Engine: #6

Device ID #	**001420**	***Device Name***	**IC Engine: #6**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9380
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #6		

3 IC Engine: #7

Device ID #	**001421**	***Device Name***	**IC Engine: #7**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9390
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #7		

4 IC Engine: #8

Device ID #	**001422**	***Device Name***	**IC Engine: #8**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9400
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #2		

5 IC Engine: #9

Device ID #	**001432**	***Device Name***	**IC Engine: #9**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer	M&M 425	*Operator ID*	Up #9460
Model		*Serial Number*	
Location Note			
Device Description	Located at well Blair #9		

6 IC Engine: #10

Device ID #	**001433**	***Device Name***	**IC Engine: #10**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9410
Model	425	*Serial Number*	
Location Note			
Device Description	Located at well Blair #10		

7 IC Engine: #12

Device ID #	**001434**	***Device Name***	**IC Engine: #12**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9430
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #12		

8 IC Engine: #13

Device ID #	**001435**	***Device Name***	**IC Engine: #13**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	Up #9440
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #13		

9 IC Engine: #14

Device ID #	**001436**	***Device Name***	**IC Engine: #14**
Rated Heat Input		*Physical Size*	32.00 Brake Horsepower
Manufacturer	M&M 403	*Operator ID*	Up #9450
Model		*Serial Number*	
Location Note			
Device Description	Located at well Blair #14		

10 IC Engine: #15

Device ID #	**112900**	***Device Name***	**IC Engine: #15**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	
Model	283	*Serial Number*	
Location Note			
Device Description	Located at well Blair #15		

11 IC Engine: #16

Device ID #	**112901**	***Device Name***	**IC Engine: #16**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer	M&M	*Operator ID*	
Model	425	*Serial Number*	
Location Note			
Device Description	Located at well Blair #16		

12 IC Engine: Generator Set

Device ID #	**112902**	***Device Name***	**IC Engine: Generator Set**
Rated Heat Input		*Physical Size*	49.00 Brake Horsepower
Manufacturer	M&M 605	*Operator ID*	
Model		*Serial Number*	
Location Note			
Device Description			

13 Internal Combustion Engine

Device ID #	**390388**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 425	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #1		

14 Internal Combustion Engine

Device ID #	**390389**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 425	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #2		

15 Internal Combustion Engine

Device ID #	**390390**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 425	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #3		

16 Internal Combustion Engine

Device ID #	**390391**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	37.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 425	*Serial Number*	
Location Note			
Device Description	Located at well Barham #11		

17 Internal Combustion Engine

Device ID #	**390392**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located at well Barham #8		

18 Internal Combustion Engine

Device ID #	**390393**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #7		

19 Internal Combustion Engine

Device ID #	**390394**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #10		

20 Internal Combustion Engine

Device ID #	**390395**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located at well Barham #7		

21 Internal Combustion Engine

Device ID #	**390396**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	32.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 403	*Serial Number*	
Location Note			
Device Description	Located at well Boyne #1A		

22 Internal Combustion Engine

Device ID #	**390397**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located on Barham well #9		

23 Internal Combustion Engine

Device ID #	**390398**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located on Barham Lease at Well #6.		

24 Internal Combustion Engine

Device ID #	**390399**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located on Boyne Lease at Well #9.		

25 Internal Combustion Engine

Device ID #	**391543**	***Device Name***	**Internal Combustion Engine**
Rated Heat Input		*Physical Size*	25.00 Brake Horsepower
Manufacturer		*Operator ID*	
Model	M&M 283	*Serial Number*	
Location Note			
Device Description	Located on Barham Lease at Well #10.		

B EXEMPT EQUIPMENT

1 IC Engine: #1

Device ID #	**112897**	***Device Name***	**IC Engine: #1**
Rated Heat Input		*Physical Size*	14.00 Brake Horsepower
Manufacturer	Arrow	*Operator ID*	
Model	C66	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.F.1.f. Spark ignition piston-type ICEs < = 50 bhp /Gas Turbines <= 3 MMBtu/hr	
Location Note			
Device Description	Located at well Blair #3		

2 IC Engine: #2

Device ID #	**112898**	***Device Name***	**IC Engine: #2**
Rated Heat Input		*Physical Size*	14.00 Brake Horsepower
Manufacturer	Arrow	*Operator ID*	
Model	C66	*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.F.1.f. Spark ignition piston-type ICEs < = 50 bhp /Gas Turbines <= 3 MMBtu/hr	
Location Note			
Device Description	Located at well Blair #4		

3 IC Engine: #4

Device ID #	**112899**	***Device Name***	**IC Engine:#4**
Rated Heat Input		*Physical Size*	14.00 Brake Horsepower
Manufacturer	Arrow C66	*Operator ID*	
Model		*Serial Number*	
Part 70 Insig?	No	*District Rule Exemption:* 202.F.1.f. Spark ignition piston-type ICEs < = 50 bhp /Gas Turbines <= 3 MMBtu/hr	
Location Note			
Device Description	Spare ICE		

10.4 Insignificant Activities (Stationary Source Totals)

1. Abrasive Blasting (0.05 TPY $PM/PM_{2.5/10}$)
2. Lubricating Oil Storage (0.01 TPY ROC)
3. Various Oils Storage (0.01 TPY)
4. Solvents and Coatings (0.73 TPY ROC)

10.5 Fee Statement

FEE STATEMENT

PT-70 No. 15074

FID: 11609 IC Engines / SSID: 02638

Device Fee

Santa Barbara County
Air Pollution Control District

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
391700	Blair #2	A3	0.260	532.55	Per 1 million Btu input	No	1	1.000	138.46	0.00	0.00	138.46
391698	Blair #6	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391697	Blair #8	A3	0.352	532.55	Per 1 million Btu input	No	1	1.000	187.46	0.00	0.00	187.46
391699	Blair #7	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391701	Blair #9	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
391703	Blair #12	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391704	Blair #13	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391702	Blair #10	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
391705	Blair #14	A3	0.352	532.55	Per 1 million Btu input	No	1	1.000	187.46	0.00	0.00	187.46
391709	Blair #15	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391710	Blair #16	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
391711	IC Engine: Generator Set	A3	0.539	532.55	Per 1 million Btu input	No	1	1.000	287.04	0.00	0.00	287.04
391999	Boyne #1	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
392007	Boyne #1A	A3	0.352	532.55	Per 1 million Btu input	No	1	1.000	187.46	0.00	0.00	187.46
392000	Boyne #2	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
392001	Boyne #3	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
392004	Boyne #7	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
392010	Boyne #9	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
392005	Boyne #10	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06

392009	Barham #6	A3	0.352	532.55	Per 1 million Btu input	No	1	1.000	187.46	0.00	0.00	187.46
392006	Barham #7	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
392003	Barham #8	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
392008	Barham #9	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
391543	Barham #10	A3	0.263	532.55	Per 1 million Btu input	No	1	1.000	140.06	0.00	0.00	140.06
392002	Barham #11	A3	0.389	532.55	Per 1 million Btu input	No	1	1.000	207.16	0.00	0.00	207.16
	Device Fee Sub-Totals =								**$4,373.30**	**$0.00**	**$0.00**	
	Device Fee Total =											**$4,373.30**

Permit Fee

Fee Based on Devices **$4,373.30**

Fee Statement Grand Total = $4,373

Notes:

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

10.6 Comments on Draft Permit/District Responses

District Responses to Comments on Draft Pt70 PTO 15074

Comment Number	Comment	District Response
1.	Page 1 Paragraph 2 refers to the ICEs as a Lease. This is not Lease, but, equipment that supports the operations on the Blair and Boyne Leases and or the Barham Ranch Stationary Source.	This language was updated.
2.	Page 3 last "-". Please correct the typo filed to field.	This change was made.
3.	Page 18 Table 5.1-1. Please refer to the attached table, Sierra has designated SR#s to each engine for consistent Operator IDs. Please update the column.	The table was updated.
4.	Page 31 Condition 9.A.3. Sierra Resources objects to being responsible to defend at its sole expense any action brought against the District including court and attorney fees.	This condition was deleted.
5.	Page 38 Condition C.1(c)(i). It is unclear if the District is referencing and existing Fuel Use Monitoring Plan or requesting a new Plan. Condition C1 seems to request a new plan whereas Condition C.7 references an existing and approved plan. Sierra is requesting that any fuel use plan is submitted 45 days after Sierra and the District agree to fuel measuring methods. The ICEs receive fuel from the casing lines, meters will not be accurate or work over the long term considering the heavy ends that are present in the fuel.	The word 'revised' was included to reflect revisions to be made consistent with the District requirement for changes to the existing fuel use monitoring procedures.
6.	Page 39 Condition C.2. Sierra is requesting that the monthly compliance requirements for the engines (MMBtu and day of Operation per month) be revised to only require the data for the reporting period. This is consistent with other ICE operations and reporting in North County oil field. There is no monthly compliance limits, the engines are all permitted for 8760 hours per year.	The monthly heat input and days of operation per month records are required to determine compliance with Table 5.1-3 lb/day emission limits.
7.	Page 39 Condition C.2. (d). The condition requests that the ZZZZ data is kept, does this also require that the data be submitted? It is unclear.	For clarity, "*The following subpart ZZZZ records shall be kept for each engine*" was revised to "*The following subpart ZZZZ records*":

Comment Number	Comment	District Response
8.	Page 39 Condition C.2. Based on the issuance date of these permits, Sierra is requesting that the first report that contains all of the required data be submitted as part of the annual/semi - annual report for 2018.	Based on the issuance date of the final permit, the initial semi-annual report will be due September 2018.